

# Amateur Radio

Volume 76 Number 12  
December 2008

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# Amateur Radio

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## Our Cover this month

A view of the VK3BJM portable station located on the Mt Arden ridge in the Flinders Ranges. Barry had his antennas pointing toward Adelaide. See the story commencing on page 23. Photo by Barry Miller VK3BJM.

### Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

### Back Issues

Back issues are available directly from the WIA National

Office (until stocks are exhausted), at \$8.00 each (including postage within Australia) to members.

### Photostat copies

When back issues are no longer available, photocopies of articles are available to members at \$2.50 each (plus an additional \$2 for each additional issue in which the article appears).

### Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

## Amateur Radio Service

A radio/communication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

## Wireless Institute of Australia

The world's first and oldest National Radio Society  
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Representing  
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## Editorial comment

### Seasons Greetings

With Christmas and New Year almost upon us, another year has been and gone.

Another busy year. For me, the highlights have been the trip to Broken Hill for the WIA AGM in May and the terrific gathering of approximately 100 amateurs interested in VHF, UHF and microwave activities at the GippsTech Conference in July. In addition, there were the monthly meetings of the local radio club, several assessment events and a little on-air activity, apart from ensuring that we published eleven issues of *AR*. Most of the projects on my "to do" list have not really progressed very far, but I need to take some annual leave from work, so perhaps some might be completed soon.

We continue to have a slow but steady stream of contributions from authors which keep our technical editors busy. However, our list is reducing in size, so please consider putting your fingers to the keyboard to write up your latest project. Of course, do not forget to take some photographs so that we can see your handiwork. Anyone can contribute – if you are uncertain, read the guideline documents that are available on the *AR* section of the WIA website.

I extend my thanks to all who have made contributions over the past year – our magazine cannot be produced unless contributions are offered. Most articles do finally make it to press, so do not think that you cannot see your name in the magazine! See also my request below!

### A column for Foundation licensees?

I have received a letter from one reader requesting a column aimed at assisting Foundation licensees to increase their knowledge. The topic was discussed at the last PubCom meeting and everyone agreed that it was a good idea, except for one problem – who would collate such a column, even if it was only say every second month. Is there a volunteer out there?

Perhaps a better approach would be for individuals to write up an individual simple project that can be completed by someone without extensive knowledge.

We had one example earlier this year with the Slim Jim vertical for 146 MHz contributed by Duncan VK2DLR in the May issue. We also have an article coming soon (perhaps in the January/February issue) on how to construct an off-centre fed dipole for HF. I am sure that clubs around the country are each doing something occasionally for the new amateurs – all we need is for someone at each club to prepare an article when such an activity happens.

### Hamads

As many readers are aware, PubCom spent some time and energy earlier this year on attempting to determine the delivery time delays around the country. We were interested in the length of delay between dispatch from Melbourne to delivery to a member's mail box. Part of the question is the fact that *AR* will appear on the news stand prior to the mail box. We are still examining how (if) we can address that particular issue! Essentially, the magazine distributor has an extremely efficient distribution system, whilst there appear to be variable delays in the Australia Post system.

One question received in the last month was the question of variable delivery affecting the availability of items advertised in Hamads. A member in one state receives their magazine, reads Hamads first. Finding an item of interest, they call the advertiser, only to find that the item sold two days ago to someone living in another state. With any periodical publication, this issue will always exist, as we cannot guarantee delivery at all addresses on the same date.

Another factor is that many amateurs now submit an item to Hamads and also post the item on an internet site, such as the VK Classified section on the vkham.com website. Items are often sold very quickly via this particular site. Of course, some will sell via eBay.

So, one possible solution would be to post Hamads onto the WIA website on the day that *AR* leaves the mailing house. If we put such an arrangement in place, everyone would theoretically be able to access Hamads at the same time. But what about those that do not have ready

continued on page 7

## Promoting Amateur Radio

Last month I wrote about the changes we had seen in the three years after the introduction of the entry level licence as part of the new three level amateur licence structure in Australia.

I noted that there had been a decline in the number of Foundation candidates and I concluded that the initial demand for an entry level licence had been met and that our task was now to promote amateur radio.

I concluded by saying:

*I believe that our task must now change. We must now start promoting amateur radio, getting the message to people who really don't know very much about it, particularly younger people.*

*We must now look to the sailing groups, the travelling groups, the scouts, the schools and just the general population.*

I also said;

*I ask you to consider how we can best promote amateur radio in your environment, and how the WIA can help you do that.*

I visited Perth on the weekend of 18/19 October 2008 for the launch of D-STAR, and met with the Western Australian Advisory Committee (or, at least most of it, as one member was away).

Since then, Director Robert Broomhead met with the South Australian Advisory Committee during the D-STAR launch in Adelaide on 9 November 2008.

On the same day, I attended the meeting of Queensland Clubs in Brisbane, attended by some of the Queensland Advisory Committee and the representatives of many clubs from as far north as Rockhampton. Also present were Vice President Ewan McLeod and Director Ron Bertrand.

At all of these meetings, the issue of whether there was a need to promote amateur radio and the means to do so were discussed.

I posed the questions I sought to be discussed this way: Was it agreed that we needed to promote amateur radio, particularly to younger people? How can we best do that? What should be the role of the clubs? What should be the role of the WIA?

Quite apart from the meetings, several people have communicated directly with me, setting out their suggestions in response to either the "Comment" in *AR* or one of the discussions I have referred to.

From all of this some common points have emerged, and so, in this "Comment" I do not attribute any suggestions or opinions to any particular person, rather I attempt to synthesise a summary of the opinions and suggestions offered.

Interestingly, many addressed the issue of attracting more WIA members first before the issue of attracting new amateurs. The background to that is that WIA membership is about 29.5% of all amateur licences in Australia, with surprisingly little difference in percentage of membership in the different states and territories. Of course, the figures I quote are indicative only, as the count of licences includes repeater, beacon and club licences as well as people with multiple callsigns.

What is clear is that there is a call for a serious membership drive, a membership "revolution"! The need to better identify what members get for their membership, the need to get better support from the clubs were particularly stressed. Cost was seen as a problem, though many accepted that with more members at least the need to increase cost could be removed. A target of 2,000 new members in a year was suggested.

Following up members who failed to renew was seen as something that the Advisory Committees could do, either directly or through clubs.

Yes, promoting amateur radio was seen as a need, most seeing younger people as an important aspect of this and with a number of significant points being made.

Yes, the clubs had a real role, both in obtaining publicity to promote amateur radio and providing the human contact to attract and train and assess. But there is a caveat. Some clubs are specialist, in objectives, areas of interest or membership. Do not expect those clubs to do what many larger and more general clubs can and will do. And, be careful that when a potential candidate

is referred to a local club or individual, they are referred to the right club or individual.

In some parts of Australia, the need to better reach out in remote areas was seen as necessary. In some cases, it was almost a chicken and egg problem, there were interest groups, such as Scouts who would welcome amateur training, but there were no amateurs to do the training. Perhaps we defined clubs for affiliation as requiring too many members.

The provision of footage for local TV stations was mentioned, many saw that the role of the WIA should be to provide background briefings for reporters and talking points for people in regional areas to use with their local papers and radio stations.

The value of promoting to special interest groups, or indeed groups such as schools and Scouts was generally accepted.

Some saw the WIA website as a place where Advisory Committees and clubs could exchange ideas. Others saw a need for downloadable promotional material.

A valid point was made that the information about amateur radio that may interest a person who already was an amateur may not be the information that would attract a person who was not an amateur. And, if we were attempting to address young people, please make sure that we used subject matter and language that would be interesting and meaningful to them!

From all of this comes the simple fact there is no simple answer. And, there are significant differences in different parts of Australia.

We shall be in contact with our Advisory Committees further about all of this.

To all of you, who have contributed to this discussion, thank you.

Both in terms of promoting WIA membership, and in promoting amateur radio, there was at least agreement on one point. What each of us does personally, by word of mouth, by talking to our friends, is the most effective promotion of all.

## NSW pursues site rentals for repeaters on Crown Land

The Director General (DG) of the NSW Department of Lands has written to the WIA upholding the Department's decision to impose a \$367 fee (CPI indexed and subject to 5 yearly review) for each amateur radio facility located on NSW Crown Land.

The WIA wrote to the DG in August arguing for special consideration for communications facilities maintained by small amateur radio clubs, and highlighting the strategic community resource that amateur radio communications facilities provide during emergencies.

In the Department's reply, the DG advises that the site rental fees are prescribed under NSW State legislation, and cannot be reduced below the minimum rent provisions.

This is bad news for small amateur radio clubs which maintain repeaters on NSW Crown Land, and also for those larger clubs with several sites. The likely outcome is the closure of some rural amateur radio repeaters, or at least their relocation to less favourable sites.

However, larger, well-resourced clubs may welcome entering into an agreement which guarantees secure tenure for their repeater sites located on Crown Land.

NSW amateur radio clubs adversely affected by this new fee should consider their position carefully. Failure to enter into a rental agreement when asked to do so by the Department may result in eviction from a Crown Land site.

## 2008 Qld Clubs Lunch

On Sunday 9 November 2008, WIA President Michael Owen VK3KI, Vice President Ewan McLeod VK4ERM and WIA Director Ron Bertrand VK2DQ attended the Queensland Club Presidents Lunch at the Geebung-Zillmere RSL Club, organised by the WIA Queensland Advisory Committee.

Over 40 representatives of clubs across Queensland and as far north as Rockhampton participated in a lively discussion of the future of amateur radio and the role of the WIA, led by Michael. See this month's "Comment".

## D-STAR Launched in Adelaide

WIA Director Robert Broomhead VK3KRB represented the WIA at the successful launch of D-STAR in Adelaide on 9 November 2008.

The repeater was given to the WIA by Icom Australia, which was represented by Peter Willmott VK3TQ. Also participating in the launch was WIA D-STAR Coordinator Richard Hoskin VK3JFK.

The D-STAR Club is the Amateur Radio Experimenters Group. The AREG provided the ancillary equipment and the many people who contributed to the success of the project.

Robert also spent time with the South Australian Advisory Committee.

## Anderson's Creek Primary School Successful ISS Contact

On the evening of the 10 November 2008, students of Anderson's Creek Primary School in Warandytte, Victoria, spoke to Mike Fincke on the International Space Station via amateur radio. Amateur Radio on the International Space Station (ARISS) arranged the contact through telebridge station VK5ZAI in Kingston SA.

During the 10 minute contact 20 questions were asked. One youngster asked "Have you been hit by a meteor and what happens if you are? ..." Mike replied "There are two types, big ones and small ones, if there is a big one coming we move the space station out of the way and if it is a small one, we have armour shielding that protects us".

Mike also told the youngsters that there are currently three people onboard the ISS: two Americans and one Russian and that they all get along very well.

Each student received a framed certificate from WIA President Michael Owen VK3KI, in recognition of their part in the contact. Certificates of appreciation were also presented to teacher Andrea Leeder and Principal Des McKenzie who enabled the evening to be such a success.

ARISS is an international educational outreach, with US participation by ARRL, AMSAT and NASA.

## WIA in New Office

The WIA National Office was closed on Friday 14 November 2008 as final packing took place for the move from Caulfield to the new office in Bayswater on Saturday 15 November.

The new WIA office is able to answer any calls and respond to emails.

The new office is at:  
Unit 20, 11-13 Havelock Road  
Bayswater, Vic 3153  
PO Box 2042 Bayswater, Vic 3153  
03 9729 0400.

The email addresses is unchanged.

## The Wireless Institute of

**Australia**

ACN 004 920 745

## Election of Directors Call for nominations

Pursuant to clause 14.1(c) of the Constitution, the WIA Board has determined that the election of directors shall be conducted by postal ballot.

Accordingly four directors retire at the conclusion of the next Annual General Meeting which will be held at a time and place to be announced but not later than 31 May 2009, namely Michael John Owen, Ewan Ross McLeod, Peter Richard Young and Robert Mark Broomhead. Each is eligible for re-election and Michel John Owen, Ewan Ross McLeod, Peter Richard Young and Robert Mark Broomhead have offered themselves for re-election to the four vacancies.

Nominations are called for from others also seeking election as a director of the WIA.

A director must be a voting member of the WIA and must hold an Australian amateur radio licence.

Any person wishing to nominate as a candidate for election as director of the WIA must deliver or cause to be delivered to the returning Officer by not later than January 30, 2009:

A statement signed by the candidate signifying his or her willingness to be a candidate for election as a director together with;

The full name, age, occupation and callsign of the candidate, and

Such other biographical details or other information as the candidate wishes to accompany the ballot papers, but in all not exceeding 250 words.

Delivery to the Returning Officer made by hand when the WIA national office is open at Unit 20, 11-13 Havelock Road, Bayswater Vic 3153.

Or by mail to:  
PO Box 2042, Bayswater VIC 3153

Nominations received by facsimile or by electronic means cannot be accepted.

David A Wardlaw VK3ADW  
Returning Officer

# An active loop-stick receiving antenna for 1.5 ~ 2 MHz

Drew Diamond VK3XU

It is unfortunate that many of us are limited in our receiving ability by an unacceptably high local noise level. Every neighbourhood, unless it is one without an electricity supply, seems to be immersed in a haze of spurious signals and harmonics from a multitude of switch-mode power supplies, plasma TVs and other appliances, along with broadband noise from high-voltage power lines. Our lowest band, 1.8 MHz, is (usually) the most affected.

Luckily, this band also allows the use of either a frame-style loop, or ferrite-rod/loop-stick receiving antenna as a simple, yet effective noise reduction device. The loop-stick has a null through the axis of the rod, so in most instances it is possible to aim the null at the worst local noise sources, leaving wanted signal(s) substantially unaffected.

Sky-wave, particularly DX signals,

often have no discernible 'direction' on a loop-stick, whereas local and ground-wave signals do, and thus we gain a worthwhile improvement in signal to noise ratio.

Offered here is a simple, effective, active receiving loop-stick antenna that can extract signals between about 1.5 and 2 MHz. Current drain from the 6 V battery of 4 AA cells is about 6 mA.

## Circuit

See Figure 1. The 42  $\mu\text{H}$  loop-stick coil is resonated with a variable capacitor, adjustable from (about) 20 to 300 pF. The coil has a Q of 165, so rejection of (possibly problematic) broadcast-band energy is also provided - a helpful feature on 1.8 MHz.

The amount of signal power available

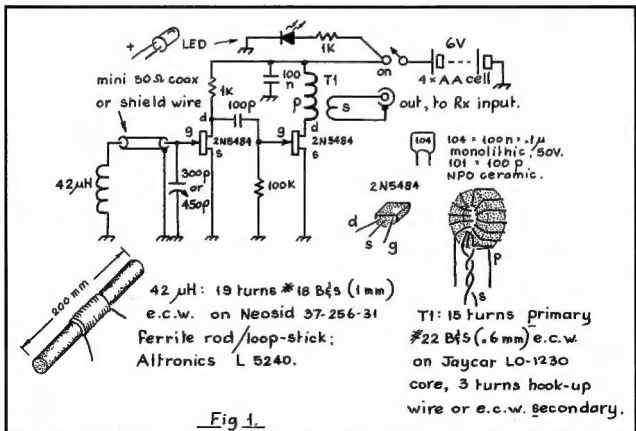


Fig 1.

Figure 1: Schematic of the loop-stick antenna

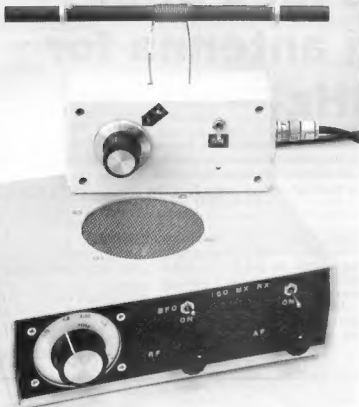


Photo 1: The loop-stick antenna

second FET is not able to 'see' the gate of the first stage; otherwise the amplifier may become unstable. Therefore, the connection between the top of the coil and peaking capacitor must be made with mini coax, or shielded (microphone), cable.

## Construction

The prototype model, pictured in Photo 1, is housed in a plastic 'jiffy' box measuring 130 x 67 x 40 mm. The variable capacitor and amplifier components are accommodated upon a 'paddyboard' circuit board (Reference 7) measuring 85 x 50 mm, although any preferred construction style, even 'ugly', should serve; provided that component leads are reasonably short, and the general layout shown in Photo 2 is followed.

The pads may be fixed, copper side up, upon the circuit board with just a dab of super glue. Or, consider using hot-melt glue by applying a sliver of solid glue upon the underside (fibre) of the pad, apply your soldering iron tip to the glue and melt it evenly, then quickly place the pad on to the board in the spot required. A 'handle', such as a 1 W resistor, may first be temporarily soldered to the pad as an aid to this procedure.

To achieve best 'Q', the loop-stick should be spaced from metal objects by more than about 50 mm. Perspex or acrylic sheet, 3 mm thick, is an ideal material for mounting the rod above the box, as illustrated in Photo 1.

For the antenna coil, close-wind 19 turns of #18 B&S/1.0 mm ecw initially upon the shank of a 9.5 mm twist drill, under tension. During assembly, the ferrite rod is passed through a 9.7 mm hole in one Perspex upright, through the pre-wound coil, and then through the second upright.

The two ends of the coil enter the box via separate holes drilled in its top, as shown in Photo 1. A blob of hot-melt or epoxy glue may be applied to the join between the rod and the Perspex in two places and upon one end of the coil.

For easy access, the four AA cells of the 6 V battery supply may be accommodated in a 4-cell holder (eg Jaycar P/N PH 9204), which is attached with hot-melt glue to the rear of the jiffy box. The on-off switch and pilot light are mounted on the front cover of the box, and are not visible in Photo 2.

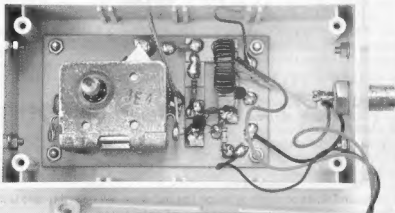


Photo 2: Internal view of the loop-stick antenna

from a loop-stick is ordinarily quite small (References 1 ~ 6), so amplification is therefore required. A conventional 2N5484 FET common source amplifier, followed by a second FET, provides sufficient gain to raise signals to a

usable level. Broadband transformer T1 converts the drain impedance of the second FET to (about) 50 ohms for a coax connection between the active antenna and a receiver.

It is important that the drain of the



## Operation

Inspect your soldering for quality and accuracy. Confirm that the FETs and the four AA cells are correctly installed. Connect the antenna output to the receiver input with a suitable length of 50 ohm coax cable (some transceivers provide a handy separate receiver input for such applications).

Switch on, and tune your receiver to 1.8 MHz. Adjust the loop variable capacitor for an increase in noise. Find a signal, re-peaking the capacitor as necessary.

The set-up should sound sensitive, indicating that the amplifier is probably working correctly. You should be able to substantially reduce any man-made noise (particularly those annoying wobbly harmonics from power supplies) by rotating the antenna for lowest noise/best signal.

In use, the loop-stick should be distanced by at least a metre or so from mains-operated equipment and other wiring, particularly feed-lines from different antennas, otherwise the sharpness of the null may be spoiled.

## Parts

All of the ordinary electronic components are available from our usual suppliers, including Altronics, Electronic World, Jaycar, Rockby and Semtronics.

The variable capacitor may be any miniature 1-gang or 2-gang broadcast type with a total capacity of 300 or 450 pF. The capacitor for the prototype (visible in Photo 2) is a commonly available 95 + 205 pF MSP from an early transistor radio.

My plastic 'jiffy' box is a Jaycar HB 6023 (confirm that your variable capacitor and other circuitry will fit).

The preferred Neosid ferrite rod is available from Altronics, P/N L 5240. Or a rod salvaged from a defunct transistor radio may well suit, if available.

Some 3 mm acrylic (Perspex) sheet may be obtainable from the off-cuts/scrap-bin at your local plastic sign makers, free for the asking.

Should there be real difficulty in finding an item or two, please do write (or phone on 03 9722 1620). I'm not in the parts business, but usually have spares on hand, or can suggest a source.

## References and Further Reading

1. "The loop aerial revived"; R Schemel, Wireless World, July 1975.
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5. Radio Communication Handbook; RSGB, LF chapter (10) in recent editions.
6. "Loop Antenna and Amplifier"; B Justic and R Tester, Silicon Chip, Oct 2007.
7. "Paddyboard" Circuit Construction - Revised"; Amateur Radio, May 2005.

Photos by Karlen Dockrey  
ar

## Editorial comment

*continued from page 2*

access to the internet – they are now at a disadvantage. In addition, if we place the Hamads on the web, why bother publishing them at all?

As you can see, there is no simple solution to these questions!

## Year's end

As has become our usual practice, the next issue of *AR* will be a combined January/February issue, hopefully out late in January. The sunspot numbers appear to be slowly rising, so enjoy the improved HF propagation. For those interested in VHF, UHF and

microwaves, read the new rules for the Ross Hull Memorial Contest and note the new dates, in the Contest column of this issue. Also remember the Summer VHF/UHF Field Day.

Merry Christmas and a happy New Year to all.

73, Peter VK3KAI

ar

# WIA HAS MOVED

The new location of the national office of the WIA is  
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Calls and faxes to existing telephone numbers will be redirected until new numbers are well established.

**All email addresses remain the same**



# A 10 and 100 MHz crystal frequency reference/transfer standard

Drew Diamond VK3XU.

We have seen the price and availability of UHF frequency counters improve markedly in recent years. It is now possible to buy a 2 GHz counter for a little over \$100 from several suppliers, and such instruments are now practically standard equipment in the radio/electronics workshop.

These devices typically provide a least significant digit (LSD) count of 1 Hz up to 10+ MHz, 10 Hz from 10 to 100+ MHz, and 100 Hz to 2+ GHz, offering a high degree of resolution. Accuracy, however, depends upon just how close to exactness is the counter's reference oscillator frequency (usually determined by an oven-controlled quartz crystal, or crystals).

Although a counter may have a self-check function, it tells us nothing about the accuracy, because it looks at its own reference - we need an independent external reference to test for accuracy.

Contemporary counters may have a HF range, a pre-scaled by 10 range (typically to cover 10 - 100 MHz), and a UHF range. The HF and UHF ranges may each use a separate crystal reference.

When best measuring accuracy is required, it is wise to check the

counter's reference against some known frequency standard. Being regular users of the HF spectrum, our most readily accessible free-to-air broadcast standard is probably WWV in Boulder, Colorado, and WWVH in Hawaii. These stations provide sufficiently accurate signals for most amateur purposes (sky-wave propagation over a long path causes subtle phase variations) on 2.5, 5, 10, 15, 20 and 25 MHz. Presently, the 5 and 10 MHz signals are the most reliable here.

If your counter has a 10 or 5 MHz output, it is usually possible to couple this into an HF receiver and observe that the counter's reference is at 'zero-beat' with WWV. However, it may be that your counter has a reference that is not related to 5 or 10 MHz, making direct comparison difficult. Moreover, the crystal for the UHF range may be different (from the HF crystal), and/or not ported outside the instrument.

To get around this problem, consider using a separate 10 MHz crystal reference as a 'transfer standard', to permit direct comparison between the counter, and the broadcast standard.

Offered here is a simple 10 and 100 MHz crystal-controlled signal source, allowing checks to be made on the accuracy of the high and low ranges of a typical counter. About 0 dBm (1 mW) in 50 ohms, roughly sinusoidal, but rich in useful harmonics is available at 10 MHz, and about +13 dBm (20 mW) in 50 ohms at 100 MHz (again, lots of harmonics). So the device also serves as a handy signal source for checking the frequency accuracy of receivers and spectrum analysers.

## Circuit

An ordinary 10 MHz crystal is excited by one gate of a 74HC04 hex inverter chip (Figure 1), where the oscillation frequency is set to exactly 10 MHz by adjustment of the 25 pF air capacitor. The oscillator is buffered by a second inverter, whose output is applied to the remaining two sets of two inverters, thus providing a 180-degree phased shifted (push-pull) drive to the quintupler (x5 frequency multiplier). The tank between the collectors of the two 2N2222s is tuned to 50 MHz.

The 50 MHz signal from the quintupler is link-coupled and applied in push-pull to the bases of a pair of 2N3053s, with their collectors in parallel, thus operating as a frequency doubler (Reference 1, p5.15). The collector tank, tuned to 100 MHz, also provides matching between collectors and a nominal 50 ohm load.

A 10 MHz signal is picked off from the inverter and applied to an un-tuned two-stage amplifier to provide about 0 dBm (1 mW) into a nominal 50 ohm load.



Photo 1: The 10 and 100 MHz crystal frequency reference standard in its case.

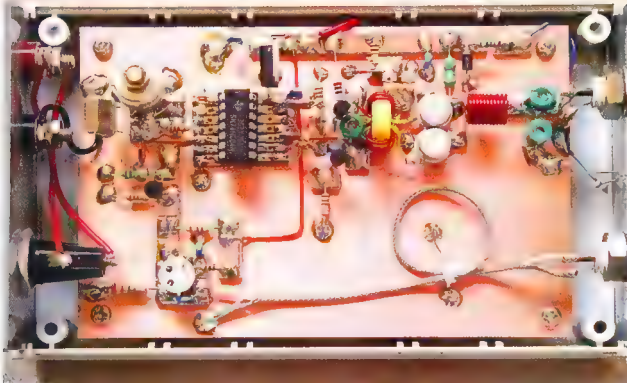


Photo 2 The 'paddyboard' and components layout of the frequency standard

## Microwave Transverters

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The new design of our Microwave Transverters features better performance and many new functions. Now, an external 10 MHz reference frequency can be connected to achieve highest frequency accuracy for EME and WSJT. The internal stabilized crystal oscillator can be used, if a 10 MHz reference frequency is not available.

A bigger attenuator at the IF input port allows an input power up to 5 watts. Of course, all the well-tried functions of the old transverter version are kept in the new design!

### INNOVATIVE MICROWAVE TECHNOLOGIES FOR THE FUTURE

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Frequency range IF

Output power

RF Input power

10 MHz reference freq. input

Noise figure @ 18 °C

Receive gain

Supply voltage

#### MKU 13 63

1296 ... 1298 MHz

144 ... 146 MHz

typ. 2.5 W

max. 5 W, adjustable  
(0.5 ... 5 W)

typ. 2 ... 10 mW

max. 0.8 dB

min. 20 dB, adjustable

+12 ... 14 V

#### MKU 23 63

2320 ... 2322 MHz

144 ... 146 MHz

typ. 1 W

max. 5 W, adjustable  
(0.5 ... 5 W)

typ. 2 ... 10 mW

max. 0.8 dB

min. 20 dB, adjustable

+12 ... 14 V

#### MKU 34 63

3400 ... 3402 MHz

144 ... 146 MHz

typ. 400 mW

max. 5 W, adjustable  
(0.5 ... 5 W)

typ. 2 ... 10 mW

typ. 0.9 dB

min. 20 dB, adjustable

+12 ... 14 V

#### MKU 57 63

5760 ... 5762 MHz

144 ... 146 MHz

typ. 250 mW

max. 5 W, adjustable  
(0.5 ... 5 W)

typ. 2 ... 10 mW

typ. 1 dB

min. 20 dB, adjustable

+12 ... 14 V

#### MKU 10 G3

10368 ... 10370 MHz

144 ... 146 MHz

typ. 200 mW

max. 5 W, adjustable  
(0.5 ... 5 W)

typ. 2 ... 10 mW

typ. 1.2 dB

min. 20 dB, adjustable

+12 ... 14 V

More information:  
www.DB6NT.de

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station receiver to 10 MHz at a time when WWV(H) is audible.

The cover must be in place (to exclude draughts). Warm-up the crystal for at least half an hour. The reference's signal can usually be effectively radiated into the local area by simply plugging a clip-lead into the 10 MHz output connector. Carefully adjust the 25 pF beehive trim capacitor so that the crystal is at 'zero-beat' with WWV(H), where it should remain indefinitely.

For excellent long and short-term frequency stability, consider operating the crystal continuously in an oven. A simple, effective scheme, based on a circuit of Ian Pogson (Reference 5) was outlined in Reference 6.

## Parts

Most of the parts are available from our usual electronics component suppliers, including Altronics, Jaycar, Electronic World, Rockby and Semtronics. The 25 pF trim caps are available from Electronic World (03 9723 3860).

The case for the prototype model is a Jaycar HB 5922.

Amidon cores may be purchased from any of the suppliers listed regularly in the Hamads of Amateur Radio magazine.

### References and Further Reading

1. Experimental Methods in RF Design; W Hayward et al; ARRL.
2. "Paddyboard" Circuit Construction - Revised"; Amateur Radio, May 2005.
3. "An RF Voltage Probe (with notes on power measurement)"; Amateur Radio, August 2000.
4. "In Circuit RF Measurement"; Tuck Choy, Electronics World, July 2003.
5. "A Simple Temperature Controlled Crystal Oven"; I Pogson, Electronics Australia, April 1987.
6. "A Temperature Controlled Crystal Frequency Calibrator"; Amateur Radio, December 2002.

Photos: Andrew Diamond

# FDMDV — Frequency Division Multiplex Digital Voice

Gerry Wild VK6GW

**How many amateurs are aware of a new system of voice transmission capable of giving noise free reception and high quality speech on the HF bands?**

Such a system is known as FDMDV (Frequency Division Multiplex Digital Voice).

This is a digital voice mode that works within a 1.2 kHz bandwidth, which is less than half the bandwidth of the normal 2.5 kHz SSB signal. The concept is based on an idea from Peter Martinez G3PLX who, along with Francesco (Cesco) Lanza HB9TLK, optimized the general code for FDMDV.

FDMDV is based on 15 carriers using the 1400 Mixed-Excitation Linear Predictive (MELP) codec and utilises higher power in each carrier combined with an occupied 1.125 kHz bandwidth. FDMDV is relatively new and is not derived from DRM (Digital Radio Mondiale) technology.

## Technical specifications

- 50 baud 14 QPSK (Quadrature Phase Shift Keying) voice data.
- 1 centre BPSK (Binary Phase Shift Keying) carrier with 2x power for auto tuning and frame indication.
- 1.125 kHz spectrum bandwidth with 75 Hz carrier spacing.
- 1450 bps data rate.
- 1400 bps MELP codec.
- Adjustable squelch.
- TX ALC boost average power while reducing the peak power.

- No FEC (Forward Error Correction).
- 4800 Sample Rate/16-20 bit/AC97 sound card compatible.

A PC with Windows XP, 1 GHz CPU and 512 k of RAM, and two soundcards, is recommended.

The sound quality of FDMDV is amazingly good considering the large amount of coding required to compress voice frequencies into such a narrow bandwidth. Sometimes, depending on propagation and received signal strength, voice quality may sound odd but nonetheless is very understandable. The characteristic raw (un-decoded) FDMDV signal sounds like buzzing.

FDMDV source files are available and published by Kirk Harding K6KAR at <http://groups.google.com/group/fdmdv>

Here you can find the two files necessary to enable FDMDV (FDMDV6Jan.2008.zip) and (melp\_1400.dll). Also at this location is a document written by Mel Whitten KOPFX which not only provides a more in-depth description and explanation of FDMDV but also provides information on how to set up and use this wonderful new digital voice mode.

If you are in need of further information or assistance you can contact Kirk K6KAR at [kirk.harding@cox.net](mailto:kirk.harding@cox.net) or the author at [vk6gw@bigpond.com](mailto:vk6gw@bigpond.com)



## QSL

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# Pic-A-Star – Homebrew HF Transceiver (SDR)

Kevin Crockett VK3CKO

This article is not all there is to know, or all you might want to know, about Pic-A-Star. It serves to alert you to the possibility of building your next all-HF transceiver and is relatively skeletal as far as information is concerned. To provide more would only be repeating part of the vast amount of information available via the Internet. After all, you will require a computer and Internet access if you decide to build one.

In 2003, as an offshoot of PIC experimentation and programming (see AQRP reference at end of article for lessons), I developed an interest in Software Defined Radio (SDR). SDR is where a radio is basically a collection of hardware items such as digital ICs, controls and frequency generating components – and a computer that is either external or embedded in the design. The processing of signals or what the circuit or module does, and the way it does it, depends on a purpose-written software program and what the computer does with it. The program can change whether the module is a signal generator, a receiver or even a transmitter. A good analogy perhaps would be the now commonplace personal computer or PC. The computer maintains the

same hardware collection but can be a word processor one minute and a weather station, games console or rig controller the next. It is the software, in conjunction with the user, that decides what it is at any given time.

My interest in SDR led me to Direct Digital Synthesis or DDS. This is where digital ICs are grouped together to form a module that, when the appropriate software is provided, generates frequencies that can be used in test gear or as the required local oscillators for transmitters, receivers or anything else for that matter. If you like, consider them to be the modern counterpart of the phase-locked loop.

An Internet search led to the downloading of considerable reference material to plough through and the task of putting any of the information to

practical use started to appear more than a little daunting and overwhelming. I even posted a query in the member's area of the WIA website at the time to find out if anyone was doing any development in Australia and did not receive one reply – ever.

Such pursuits into the world of DDS were put on hold until I completed an Advanced Diploma of Electronics Engineering course (no, this was not a requirement for DDS, it was another interest) at the Bendigo Regional Institute of TAFE. This led to even more 'downtime' as I ended up going into business at the end of the course. As time was now at a premium, I was thinking that I would probably have to buy an essentially digital transceiver if I was going to enjoy this latest technology to any degree. As I could



Photo1: The Group of builders photographed at the 2008 Centre Victoria RadioFest.

not afford a Ten-Tec Orion, I might have to build an Elecraft K2 some day or forever chase the elusive butterfly of DDS and SDR experimentation – or give it away altogether.

The inaugural Centre Victoria RadioFest held at Kyneton in April 2007 included a mini-lecture presented by Paul Engler VK3XDE. As this was an SDR subject and PIC-related, I decided that this was one lecture I could not miss and a break from duties on the day would just have to be arranged. Paul's Pic-A-Star lecture demonstrated how it is possible to build an all-HF band transceiver that at least rivals today's commercial offerings – at a much lower price and you have the added bonus of the satisfaction of having built it yourself. The subject was just what I had been looking for and I enthusiastically looked up the Internet when I arrived back home and arranged a logon to the special Yahoo forum for constructors. A link is provided at the end of this article. I added my name to the official builder's list a couple of days later.

I arranged for Paul to present the

project to Midland Amateur Radio Club ([www.marc.org.au](http://www.marc.org.au)) members who missed out on his very informative lecture at the RadioFest. This took place in June and was attended by more than 20 interested amateurs. Most of these were from around Bendigo, with a group from the Sunbury area. Quite a few expressed an interest in building this exciting transceiver and the Club

committee decided that a coordination point be established to help members and others in construction. Out of the presentation came something like 15 confirmed builders and the number of builders continues to grow around the world.

At the time I joined the official builder's in April 2007, the list showed that worldwide, 45 builders

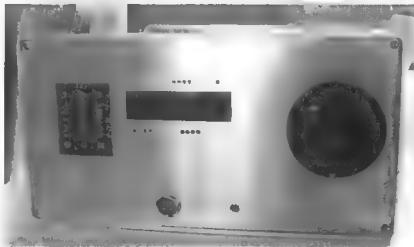


Photo 2: Partly completed Pic-A-Star from Glenn Percy VK3PE.

# TET-EMTRON

## Antenna Manufacturers

# TEV-1

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- With an auto tuner (SGC-237 or Icom AH-4 style).
- Using a 4:1 Balun at the feed point and a tuner at the radio.
- Using 450 Ohm ribbon and a 4:1 Balun in an 'L' shape.

The antenna is all predrilled and by following the instructions, you will find that the antenna is simple to assemble.

### Specifications

**ELEMENT HEIGHT**  
**CONSTRUCTION**  
**HARDWARE**  
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**8500 mm**  
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(two Australian) had completed their transceivers with another 96 (six Australian) who had commenced building. I happened to be the 6th Australian on the list. The January 2008 list shows a total of 51 (two Australian) completed with 207 (36 Australian) who have started building. Of the 36 Australians who have commenced building, 30 are Victorians. Why have the other states not caught on? Maybe this article will change that.

So, what is all the interest about?

## Creation of Pic-A-Star

Peter Rhodes G3XJP is the brains behind the project. He published an article in the RSGB journal *RadCom* from September 2000 to January 2001 covering what he called an Intelligent ATU. This ATU was PIC-controlled, was placed at the far end of the coax and was controlled by a single switch via the coax itself. He dubbed it PicATune. This is also a Midland Amateur Radio Club project with around eight local and about 15 known VK constructors in all at the time of writing.

Peter later described Pic 'N' Mix - a complete digital frequency injection system. This was a frequency generation module based on DDS and provided local oscillator injection for potentially updating an older transceiver or for signal generator purposes. This was to become the frequency source for his next big project - Pic-A-Star.

Pic-A-Star was first published as an article by the RSGB in *RadCom* from Aug 2002 to March 2004. There is also a devoted chapter in the 2006 RSGB Handbook. STAR II, as the current development is known, is in daily use all around the world and is now completing formal development. Peter's project development is scheduled to end on 1 September 2008. After devoting some ten years of his life, Peter would like to get some free time back. This will not necessarily be the end of development and it is hoped that someone else will take over and ensure that it remains a project without an end. Support for official builders will continue.

It would be remiss of me not to acknowledge the large number of contributors to the development of this project. It is a collaborative effort where many builders and skilled amateurs have contributed and continue to contribute their expertise. Details can be located on the forum if you wish to explore this further.

## What is Pic-A-Star?

Pic-A-Star has evolved a lot since it was first published. As previously stated, it was defined as a project without an end. Peter's view from the constructor's angle was a source of ideas for improving an existing transceiver - not least, replacing the back-end with a powerful Digital Signal Processing (DSP) capability. It

was also to provide an opportunity for builders to acquire some building skills that they may not already have - self education. Now, is that not part of the purpose of amateur radio?

The general barrier to home construction in this modern, digital age has been said to be adequate design information, parts availability, surface mount components and inherent difficulties in making circuit boards and even mounting the close-spaced-pin components. It can be done a lot easier than you think and there is only one way to find out how. The downloadable documents are essential reading.

Although quite complex in places, emphasis is on home construction and it is explicitly designed to be upgraded over the web. Software is supplied only to official, registered constructors. A simple and inexpensive technique for making precision circuit boards including the mounting of digital chips with 0.5 mm spacing is provided.

A Direct Digital Synthesis control module provides all the required frequency generation for the transceiver as well as frequency readout. Other software modules control status indication, bandswitching, filter setting and so on, even simulated stereo audio. Although the transceiver is cutting edge technology, it is relatively easy for amateurs to homebrew and its performance rivals and even exceeds the current commercial offerings in many areas. Performance upgrades/enhancements are accomplished via software downloads - similar to the Ten-Tec Orion and Elecraft K2 for example.

Its design and software is open source but is subject to free registration with the Yahoo Forum and is not available for commercial gain. Facilities include: SSB and CW detection and generation, a bank of high-performance Rx filters, impulse noise blanking, non-coherent noise reduction, auto-notch heterodyne removal, variable AGC time constant, synthetic stereo audio reproduction, adjustable RF clipping on transmit, very fast VOX and QSK operation and the flexibility to change.

Front panel controls consist only of a rotary encoder and a keypad. The keypad selects operating parameters and the encoder 'dials in' the amount of



Photo 3: Inside Glen Percy's part completed Pic-A-Star.

change or setting. The encoder is also used to change the frequency setting as expected.

Unlike most other designs that are being undertaken in the field of SDR, this one does not require connection to a computer during operation. A computer is required in the initial commissioning as it were and for the software upgrades but once that is completed, it is stand alone.

The project itself covers almost everything except the output PA and the very front end. You can save costs by using a second-hand PA or front-end stages or design or build your own if you want to. Suitable, recommended designs are available from <http://www.radio-kits.co.uk/>

Although some surface-mount components are used, there is nothing really difficult about mounting the components or making the circuit boards for home construction. In the words of Peter Rhodes G3XJP 'For me, this is Amateur Radio - not the passive process of swapping money for a radio, nor the passive process of sucking up free software. Rather the active process

of getting involved collaboratively in designing and making one. And only then, the pride and pleasure of using it - which you can't buy for any money.'

It is to be noted that Australian Foundation licence holders are not permitted to use such a transceiver under the terms of their licence but there is no reason why they could not build a receiver-only version and a couple of local amateurs are doing just that. You actually end up with a fully functioning receiver before adding the transmitting capability when/if you obtain the licence to use it.

## Construction

There is no kit available for this transceiver. You need to source everything yourself. However, the most common way of doing this is to create a buying group where there can be purchase savings through bulk purchases.

As expected, some of the parts are not available from your corner electronics parts store and you will need to cast your net further afield. The internet is a great tool for this but consider postage

and freight. Many parts are traded between builders themselves and there is always plenty of advice from other builders.

There is plenty of scope for individuality in building but if you deviate too far from the main stream you will increase your risk of problems and decrease your chances of getting Forum support.

## How to get involved

A regular VK Pic-A-Star HF net was started on 6 January 2007 on 3.655 MHz at 8 pm (local EST) and is conducted every Monday evening on this frequency unless there is some reason to change it. The net is open to all interested parties.

In order to become more familiar with the project's design and to see if you are really interested in building one, download the single, 45 page PDF file of the development articles that appeared in the Radio Society of Great Britain (RSGB) amateur radio magazine, RadCom, and read it three times.

Do not worry if you do not completely

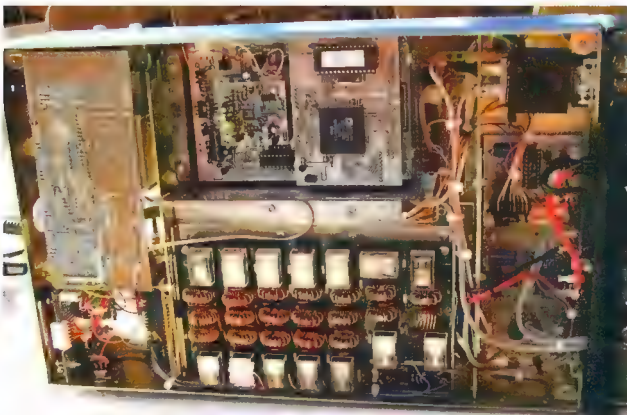


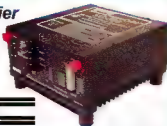
Photo 4: Paul Engler VK3XDE built this working Pic-A-Star.

## SGC SG-500 Power Cube HF Amplifier

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- SSB CW, AM FM Digital modes. • 17 selectable transmit bandwidths. • RX EQ and TX EQ in 6 dB/octave filters selectable in 1-dB steps. • DSP Noise Reduction, auto or manual notch. • CSK CW has adjustable rise and decay times, hard or soft key options

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## ZM30 Antenna Analyzer

The ZM30 is an automated micro-controlled SWR antenna analyzer with a 8 bit micro-controller with a precision low power DDS signal generator! It also includes a self-calibrating reflectometer and displays SWR at selectable frequencies from 1 MHz to 30 MHz! It measures SWR, impedance, reactance, inductors and capacitors, transmission lines, stubs, Q and resonant frequency. There is a serial port for field upgradable software. Battery operated. As on all Palstar products the front panel is powdercoated.



## AT1KP Tuner



Differential capacitor tuning, 2 stators, 1 rotor, 2 controls to precision tune, ceramic body roller inductor and high power balun. Peak and Peak Hold dual cross-needle metering.

- 1200 watts pep • 160 m to 20 m (1200+/-1200), 10 m to 15 m (1000+/-1000) • Output to both balanced and unbalanced lines • 20 ohms to 1200 ohms impedance matching range • 6 position mode switch for multiple antennas • Backlit Crossneedle metering (wall transformer supplied) • Meter power range 0-300 watts / 0-3000 watts • 270 mm w x 115 mm h x 280 mm deep

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sections of 6000  
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tube.

It is protected  
with a durable  
powder coat  
finish in a  
pleasing grey/  
green color.

The natural  
resonance is  
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understand it all at any time. Help is available via the Forum. The one-file development articles are available from <http://www.tracey.org/wjt/temp/picastar-all.pdf> DO NOT build from these original PDFs. They are for background development and parts/design interest only. Regular updated build information is available from the official web site at any time and the current status is posted on the Forum each Friday.

Having decided that you still want to build one, and only when you have decided you want to build one, you should then create your own log-on to the Yahoo forum - <http://uk.groups.yahoo.com/group/picastar/> When you are finally ready to start, ask to be put on the official builder's list. This will enable you to access all the current development and building information that you will need for the project.

This includes the PIC 'N MIX DDS articles that are not included in the PDF mentioned above. You will also

be able to post specific queries if you need particular help during your construction. Try and resist the urge to download all the files that you see. If you cannot resist the urge, try and keep some order in what you download so that you can easily tell what is current and what is not. There will be changes during the build cycle. The latest status is posted weekly on the forum.

If you find, or are offered, any discarded HF SSB CB radios or HF amateur transceivers, grab them - regardless of condition. They are a source of PA stages, roofing filters, relays, front ends and so on, and will come in handy later on for the sections that are not provided as an integral part of the Pic-A-Star project. Get your junk box stocked.

### Local Progress

How far have the local builders managed to get? Not very, although there has been quite a bit of work behind the scenes. Sourcing components for your

own build is one thing but the work load for a group seems to multiply exponentially.

There have also been diversions into a



Photo 5: Paul Engler VK3XDE during the MARG presentation.

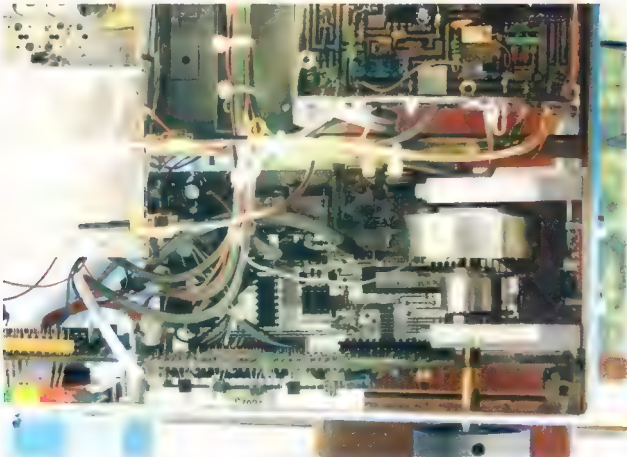


Photo 6: A bottom view of Paul Engler's VK3XDE Pic-A-Star.

couple of offshoot Club projects like the Phil Rice LC Meter Mark 2 (around ten of these), the Pic-A-Star associated continuity checker (around six of these) and PicATune (about twelve local builders and a couple of others). Further details are available from the Midland Amateur Radio Club web site. All of these projects resulted in multi-linked/cross-referenced spreadsheets to identify the best buy price from various suppliers.

The Sunbury group have said that they are well under way.

These endeavours have taken many, many hours of a very limited resource - time. I have taken the opportunity of a couple of other group buys to obtain some Pic-A-Star parts such as the commercial VK3PE-arranged circuit boards, rotary encoders and some special DSP chips. Once the PicATune project is well underway, part ordering and construction will start in earnest for Pic-A-Star.

So, there you have it. If you want to get involved in some

fascinating homebrew, here is your opportunity. The references below will point you in the right direction and, once you start searching, you will find plenty more.

## References

Complete 20-part Original Development Article - <http://www.tracey.org/wjt/temp/picastar-all.pdf>  
 Pic-A-Star Forum - <http://uk.groups.yahoo.com/group/picastar/>  
 Midland Amateur Radio Club - <http://www.marc.org.au/>

Steve Drury G6ALU - <http://www.radio-kits.co.uk/>

American QRP PIC Programming - <http://www.amqrp.org/elmer160/lessons/>

## Some build pictures

Stephen Wilson G3VMW - <http://www.g3vmw.demon.co.uk/>

Glenn Percy VK3PE - <http://www.carnut.info/star-parts/pcbs/starbuilders.htm>

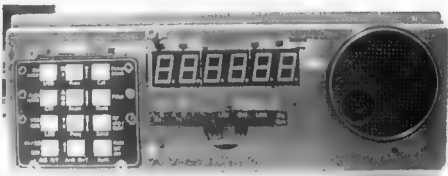


Photo 7: A close-up view of Paul Engler's VK3XDE encoder construction.

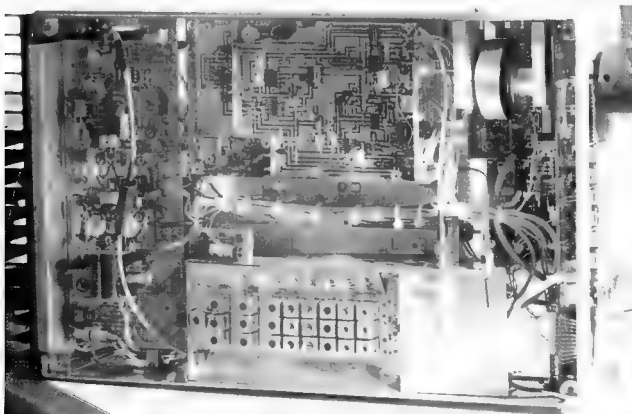


Photo 8: A top view of Paul Engler's VK3XDE working Pic-A-Star.

# Gridsquare Standings at 17 October 2008

## 144 MHz Terrestrial

VK2FLR	Mike	113
VK3NX	Charlie	106
VK2KU	Guy	102
VK3KAJ	Peter	87
VK3HZ	David	80
VK2ZAB	Gordon	78 SSB
VK2DVZ	Ross	72 SSB
VK5AKK	Phil	72 SSB
VK3CY	Des	71
VK3PY	Chas	71 SSB
VK2KU	Guy	69 SSB
VK2ZT	Steve	64 SSB
VK7MO	Rex	63
VK2TK	John	62
VK3QM	David	61 SSB
VK3BJM	Barry	60 SSB
VK2EI	Neil	59
VK3BDL	Mike	54 SSB
VK3KAJ	Peter	54 SSB
VK3ZLS	Les	51 SSB
VK3WRE	Ralph	50 SSB
VK5BC	Brian	48 SSB
VK2KU	Guy	47 Digi
VK3CAT	Tony	46
VK3VG	Trevor	46 SSB
VK4CDI	Phil	45
VK7MO	Rex	45 SSB
VK3II	Jim	43
VK4KZR	Rod	43
VK7MO	Rex	43 Digi
VK3II	Jim	42 SSB
VK5BC/p	Brian	42 SSB
VK4CDI	Phil	41 SSB
VK2AMS	Mark	38 SSB
VK3KAJ	Peter	38 Digi
VK2TK	John	35 SSB
VK2KOL	Colin	34 SSB
VK3EJ	Gordon	33 SSB
VK3ZUX	Denis	33 SSB
VK6HK	Don	33
VK3DMW	Ken	32
VK4TJ	John	32 SSB
VK2TG	Bob	30 SSB
VK3VHF	Rhett	29 SSB
VK2EAH	Andy	27
VK2TK	John	27 Digi
VK1WJ	Waldis	26
ZL3TY	Bob	24
VK3TLW	Mark	23 SSB
VK4EME	Allan	23
VK1WJ	Waldis	22 Digi
VK3BG	Ed	22 SSB
VK3ECH	Rob	20 SSB
VK4CDI	Phil	20 Digi
VK6KZ	Wally	20
VK4EME	Allan	19 SSB
VK3AL	Alan	18 SSB
VK3II	Jim	18 Digi
VK3UDX	Geoff	17 SSB
VK2EAH	Andy	16 SSB
VK6KZ/p	Wally	16
VK3VHF	Rhett	12 Digi
VK4EME	Allan	12 Digi
VK2EAH	Andy	11 Digi
VK2EI	Neil	11 Digi
VK2KOL	Colin	9 Digi
VK2ZT	Stava	8 Digi
VK6DXI	Mirek	8
VK6HK	Don	6 Digi
VK1WJ	Waldis	5 SSB

VK1WJ	Waldis	5 CW
VK4AIG	Denis	5 SSB
VK4JAZ	Grant	3 FM
VK3QM	David	1 Digi

## 144 MHz EME

ZL3TY	Bob	287
VK2KU	Guy	278
VK2KU	Guy	266 Digi
VK3AXH	Ian	233 Digi
VK7MO	Rex	155 Digi
VK4CDI	Phil	147 Digi
VK2FLR	Mike	120
VK3CY	Des	70 CW
VK2AWD	David	65 Digi
VK2KU	Guy	39 CW
VK2ZT	Steve	29 Digi
VK3VHF	Rhett	20 Digi
VK3HZ	David	19
VK3II	Jim	10 Digi
VK3NX	Charlie	5
VK4EME	Allan	5 Digi
VK3AXH	Ian	3 CW
VK2DVZ	Ross	2 CW
VK3AXH	Ian	1 SSB

## 432 MHz Terrestrial

VK2ZAB	Gordon	57 SSB
VK3NX	Charlie	50
VK3PY	Chas	50 SSB
VK3QM	David	48 SSB
VK3ZLS	Les	40 SSB
VK2KU	Guy	38
VK3BJM	Barry	38 SSB
VK3HZ	David	37
VK5AKK	Phil	35 SSB
VK2KU	Guy	34 SSB
VK2DVZ	Ross	32 SSB
VK3CY	Des	32
VK3BDL	Mike	30 SSB
VK3KAJ	Peter	30
VK3KAJ	Peter	29 SSB
VK3WRE	Ralph	28 SSB
VK5BC	Brian	25 SSB
VK3VG	Trevor	20 SSB
VK7MO	Rex	20
VK2ZT	Steve	19 SSB
VK3UDX	Geoff	19 SSB
VK2TK	John	18
VK7MO	Rex	18 SSB
VK2TK	John	17 SSB
VK3CAT	Tony	16
VK5BC/p	Brian	16 SSB
VK3BG	Ed	15 SSB
VK3TLW	Mark	15 SSB
VK3ZUX	Denis	15 SSB
VK4KZR	Rod	14
VK4CDI	Phil	13
VK4CDI	Phil	13 SSB
VK6KZ	Wally	13
VK2AMS	Mark	12 SSB
VK2KOL	Colin	12 SSB
VK2EI	Neil	10 SSB
VK2TG	Bob	10 SSB
VK3AL	Alan	10 SSB
VK3ECH	Rob	10 SSB
VK3VHF	Rhett	9 SSB
VK4TJ	John	8 SSB
VK6KZ/p	Wally	8
VK7MO	Rex	7 Digi
VK2FLR	Mike	6

VK4EME	Allan	6 SSB
VK6DXI	Mirek	6
VK2KU	Guy	5 Digi
VK1WJ	Waldis	4 SSB
VK2EAH	Andy	4 SSB
VK3DMW	Ken	4
VK3KAJ	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK4CDI	Phil	4 Digi
VK3VHF	Rhett	3 Digi
VK4AIG	Denis	3 SSB
VK4JAZ	Grant	3 FM
VK2KOL	Colin	1 Digi
VK2TK	John	1 Digi

## 432 MHz EME

VK4KAZ	Allan	14 CW
VK4CDI	Phil	11 Digi
VK7MO	Rex	10
VK7MO	Rex	9 Digi
VK3NX	Charlie	5
VK3HZ	David	4
VK2ZT	Steve	1 Digi
VK3AXH	Ian	1 Digi
VK3VHF	Rhett	1 Digi
VK5BC	Brian	1

## 1296 MHz Terrestrial

VK3PY	Chas	39 SSB
VK3QM	David	39 SSB
VK3NX	Charlie	37
VK2ZAB	Gordon	29 SSB
VK3ZLS	Les	26 SSB
VK2KU	Guy	25
VK2KU	Guy	22 SSB
VK3KAJ	Peter	20
VK5AKK	Phil	20 SSB
VK2DVZ	Ross	19 SSB
VK3KAJ	Peter	19 SSB
VK3KWA	John	19
VK3BJM	Barry	18 SSB
VK3WRE	Ralph	17 SSB
VK3BDL	Mike	16 SSB
VK3HZ	David	16
VK3VG	Trevor	12 SSB
VK3BG	Ed	11 SSB
VK7MO	Rex	11 SSB
VK2TK	John	10 SSB
VK3UDX	Geoff	10 SSB
VK4KZR	Rod	10
VK2ZT	Steve	8 SSB
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK3ECH	Rob	6 SSB
VK3VHF	Rhett	5 SSB
VK3ZUX	Denis	5 SSB
VK4TJ	John	5 SSB
VK5BC	Brian	5 SSB
VK6KZ/p	Wally	5
VK4CDI	Phil	4
VK6KZ	Wally	4
VK2KU	Guy	3 Digi
VK4CDI	Phil	3 SSB
VK4EME	Allan	3 SSB
VK5BC/p	Brian	3 SSB
VK6DXI	Mirek	3
VK7MO	Rex	3 Digi
VK2FLR	Mike	2
VK3CY	Des	2
VK3DMW	Ken	2

VK3KAI	Peter	2 Digi	VK3QM	David	9 SSB	VK3DMW	Ken	2
VK3QM	David	2 Digi	VK3WRE	Ralph	7 SSB	VK3ZUX	Dennis	2 SSB
VK4AIG	Dennis	2 SSB	VK3KAI	Peter	6 SSB	VK7MO	Rex	2
VK2AMS	Mark	1 SSB	VK6KZ	Wally	4	VK3BG	Ed	1 SSB
VK4CDI	Phil	1 Digi				VK4KZR	Rod	1
<b>1296 MHz</b>	<b>EME</b>		<b>3.4 GHz</b>	<b>EME</b>		<b>10 GHz</b>	<b>EME</b>	
VK7MO	Rex	27	VK3NX	Charlie	11	VK3NX	Charlie	13
VK7MO	Rex	24 Digi	<b>5.7 GHz</b>	<b>Terrestrial</b>		<b>24 GHz</b>		
<b>2.4 GHz</b>	<b>Terrestrial</b>		VK3NX	Charlie	12	VK6BHT	Nell	3 SSB
VK3NX	Charlie	15	VK3WRE	Ralph	9 SSB	VK2EI	Neil	2 SSB
VK3PY	Chas	15 SSB	VK3QM	David	8 SSB	VK3NX	Charlie	2
VK3QM	David	15 SSB	VK3KAI	Peter	7 SSB	VK6KZ	Wally	2
VK3WRE	Ralph	10 SSB	VK6KZ	Wally	4	<b>474 THz</b>		
VK3KAI	Peter	7 SSB	VK3BJM	Barry	2 SSB	VK3HZ	David	2
VK3HZ	David	6	VK3KAI	Peter	2 Digi	VK7MO	Rex	2
VK6KZ	Wally	4	VK6BHT	Neil	2 SSB	VK7MO	Rex	2 Digi
VK3BJM	Barry	3 SSB	VK3ZUX	Dennis	1 SSB	VK7TW	Justin	2
VK3KAI	Peter	2 Digi	<b>5.7 GHz</b>	<b>EME</b>		VK7HAH	Ben	1 Digi
VK3VHF	Rhett	2 SSB	VK3NX	Charlie	11	VK7TW	Justin	1 Digi
VK4KZR	Rod	2	<b>10 GHz</b>	<b>Terrestrial</b>		Additions, updates and requests for the guidelines to Guy VK2KU.		
VK2DVZ	Ross	1 SSB	VK3NX	Charlie	11			
VK3BG	Ed	1 SSB	VK3QM	David	11 SSB	The guidelines (and the latest League Table) are also available on the VK VHF DX Site at <a href="http://www.vhfdx.radiocorner.net">www.vhfdx.radiocorner.net</a> - click on Gridsquares.		
VK3TLW	Mark	1 SSB	VK3KAI	Peter	9 SSB			
VK3ZUX	Dennis	1 SSB	VK3PY	Chas	9 SSB	Next update of this table will close on or about 13 February 2009. Stations who do not confirm their status for more than 12 months may be dropped from the table.		
<b>2.4 GHz</b>	<b>EME</b>		VK3WRE	Ralph	9 SSB			
VK3NX	Charlie	27	VK6BHT	Neil	9 SSB	<b>ar</b>		
VK7MO	Rex	9	VK3HZ	David	7			
VK7MO	Rex	7 Digi	VK6KZ	Wally	5			
<b>3.4 GHz</b>	<b>Terrestrial</b>		VK3TLW	Mark	3 SSB			
VK3NX	Charlie	11	VK2EI	Neil	2 SSB			
			VK3BJM	Barry	2 SSB			

## Silent keys

### William James Cross VK2WJC

Born in Charlestown, Newcastle on 2nd August, 1933. Billed on 6th July, 2008 at St Vincent's Hospital Lismore after a short illness. He married Nancy on 27th December, 1958. They have four sons, Vincent, Anthony, Philip and Michael.

He started work at Palings as a piano tuner and repairer and attended Newcastle Technical College at night to obtain his Leaving Certificate. He then trained at Newcastle Teacher's College as a Manual Arts teacher. He taught at Ballina High, Alstonville Central, Richmond River and Kadina High Schools. At Richmond River, he completed an Arts Degree (Mathematics) by correspondence from the University of New England. He became Mathematics Master at Richmond River in 1971, - a position he also held at Kadina from 1978 until he became Deputy Principal in 1986. He accepted a position at Trinity Catholic College in 1990, teaching Mathematics and Manual Arts until his retirement in 1997.

Always being interested in amateur radio, he passed the ALCIP, obtaining the call sign VK2YCQ and joined the WIA on 22nd February 1974. On 23rd December 1974, he passed the AOCIP gaining the call sign VK2BCW. He changed to VK2WJC on 24th January 1989 and kept this until his death.

Bill took a prominent part in Summerland Amateur Radio Club activities, especially the Club surveillance work for the Clarence Valley Canoe Club from 1975 to 1980 at Nymboida where his son, Vincent, was an accomplished canoeist. He also took part in many Field Days in his later years, particularly the International Lighthouse/Lightship Weekend. Whilst at Kadina High School, he organized accommodation for Club Meetings

and access to the school's Metalwork Shop at night, enabling club members to carry out their projects. He helped set up the Club's first two repeaters, was Club's librarian and was always ready to assist members, either young or old, with any problem.

*Penning by Ted Smith and the Cross family, submitted by Michael Cross.*

### Roy Scott VK5PG

Roy Scott VK5PG was born in 1922, and died on Monday 18 August 2008, in Adelaide. He married Mary in 1947, celebrating their 60th wedding anniversary last year. He leaves Mary, and two sons, Greg and Phil.

Ex Australian Signals, joining in 1942, Roy served in northern Australia, Borneo, PNG and, once on a US warship. We had many an amusing conversation about army life in the signals, and our travels.

A printer, Roy had many hobbies, among them astronomy, he made his own large telescope; photography, both 35 mm and digital, and steam trains, developing a wonderful track layout. He loved building model sailing ships, was a very good piano player, and actually mastered computers at 82.

His greatest hobby was amateur radio, and his love was CW, which was fortunate, as he said his rather hoarse voice was no good for SSB. Roy would have been one of the top CW operators; he pushed me to receiving 35 wpm on one occasion, and his CW sending was perfect.

Whereas we his friends made the odd mistake, he seldom did, and when he did he would get very cross with himself. Good CW was an obsession with him. He taught me a lot about how to send fast CW.

He was a very good friend, and I will miss him.

*Submitted by Michael Elliott VK5ELL.*



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# Spinifex and contrails

Barry Miller VK3BJM

After a substantial (four year) absence from VHF/UHF DXpeditions, a dose of Long Service Leave during October/November gave me time to cart myself, and my gear, back out and about. The trip I had in mind had two aims: (1) to visit Peter VK5ZPG at his QTH in Quorn SA and assist him in any way with getting his 12 metre (40 foot) tower upright; and (2) activate a couple of inactive Maidenhead squares along the way.

Peter lives just outside Quorn, at the southern end of the Flinders Ranges. The Flinders Ranges are a favourite destination of mine, and this trip would be either my 12th or 13th visit – I am beginning to lose track!

On a previous trip back in June 2001, I had activated PF99 from near Moolooloo Station (close to Blinman in the Central Flinders Ranges), and another trip in April 2004 took me to Waukaringa to activate PF97. This last trip was specifically to test Aircraft Enhancement Propagation (AEP) possibilities back into VK3 in general and the Melbourne area in particular, and was documented in an article in AR in November 2002.

Peter and I live under an International Flight Route (IFR) used by aircraft bound from Melbourne for Singapore and Indonesia. (The IFR is known as Q168.) We have been interested in making an AEP contact, using this IFR, on 144 MHz for a year or two now, but due to both our stations being in a state of upgrade this has not as yet been completed. The path distance is just on 800 km, which is certainly feasible using AEP.

## The Station:

My portable station for this trip consisted of the following:

For 144 MHz and 432 MHz, an Icom IC-706IIG coupled with a 160 watt 144 MHz PA and a 100 watt 432 MHz PA.

On 1296 MHz I use a VK5EME transverter (with a Yaesu FT-290R as the IF rig) backed onto a VK3PY-designed 60 watt PA (see AR October 2008).

I packed a 10-element DL6WU Yagi for 144 MHz, a 28-element for 432 MHz and a 900 mm 'Grid-Pack' dish for 1296 MHz. I also used 'Big Wheels' for 144 MHz and 432 MHz whilst mobile.

## The Trip:

I left a bit after midday on Monday 13th October, and paused overnight just outside Underbool (50 km west of Ouyen). I had a couple of contacts with VK3XPD on 2 m as I was mobile, the

last being near Charlton. Set-up was a bit late, due to an inability to find a really suitable site – it is very flat out there! – and wanting to have something for dinner.

From the locator QF04wv I had twenty-one contacts on 144 MHz (with



Singapore Airlines Boeing 747-400, headed from Melbourne to Singapore, over Mt Arden.

some repeats) spread amongst VK3KH, VK3XPD, VK3HZ, VK3II, VK3JTM, VK5AKK, VK5GF, VK5BC, VK3NX, VK3QM, VK5PJ, VK5ZK, VK3WN, VK5LA, VK3AXH and VK3VG; seven contacts on 432 MHz (with VK5AKK, VK5ZK, VK5GF, VK3AXH, VK3HZ, VK3XPD and VK3VG), and three contacts on 1296 MHz (with VK3VG and VK3HZ), between 0950 Z and 2213 Z.

23 cm was frustrating, with conditions only peaking enough in the last 30 minutes before I broke camp to provide

the three successful contacts.

From Underbool I travelled west to Pinnaroo, then north through Loxton, Waikerie, Morgan, Burra, Spalding and Gulnare before picking up the North Road, which took me through Melrose and Wilmington to Quorn where I arrived just after 6 pm CDT.

En route I had mobile contacts with VK5BC and VK5LA (and possibly others – log-keeping at this point was via the old grey matter...) on 2 m, and a reassuring contact on 70 cm with Brian VK5BC whilst mobile near Cadell.

Reassuring because I was concerned that I may have DESTROYED my 70 cm PA at Underbool through having inserted it into the coax feed system BACK-TO-FRONT... The contacts I made were with the amp off (therefore in bypass) with 20 watt from the IC-706MkIIIG. How, after 10 years of playing at portable ops, I managed to do such a stupendously stupid thing; well, I dunno.

The lateness of the hour and pressure to be on air, probably contributed to a mistake I hope never visits me again.

Peter VK5ZPG kindly put me up for a couple of nights. As promised, I gave Peter a hand with some of the preparatory work required for erecting his new tower. This occupied most of Wednesday.

At some point, Peter asked if I was interested in trying Mount Arden as an operating site. I was game, and he made a number of phone calls to various people in order to obtain permission. Having gained this, we set off for the summit on Thursday afternoon.

Mount Arden is about 22 km NNW of Quorn, on Argadells Station. It is 844 m ASL, and the view from the top was stunning. Unfortunately a paging system on 148.265 MHz was causing regular desensitisation to my receiver, so I ended up about a kilometre north along the ridge, hidden and protected from the RF poison by a knoll but with a clear view to Adelaide, Melbourne, Sydney and way out west.

A flat area, clear of spinifex and with room for the Land Rover and my swag, was next to the track. Brilliant!

Between 0720 Z and 2249 Z on the 16th, from PF87xu thirteen contacts on 144 MHz (VK5ZPG, VK5AKK, VK5BC, VK5GF, VK5ACY, VK5LA, VK5PJ, VK5DK, VK3ATS, VK5ZK and VK5FD), nine contacts on 432 MHz (VK5BC, VK5AKK, VK5ACY, VK5PJ, VK5DK and VK5ZPG) and three contacts (VK5BC, VK5AKK and VK5PJ) on 1296 MHz were made. Almost all were via tropo; Colin VK5DK was worked via AE on 2 m and 70 cm. A little of Ian VK3AXH was also heard on Friday morning, but not enough for a contact.

Perhaps most remarkable was hearing David VK3HZ several times – not short grabs, but several consecutive transmissions at a comfortable RS of



Operating site near Underbool, Victoria (QF04wv), with the antennas pointed to Adelaide.

41 – via AE. David was monitoring a virtual radar display, and could see aircraft flying between Adelaide and Sydney at 37,000 feet; as they entered the path between Mount Arden and Balwyn, up came the signal! The frustration was not being able to make myself heard!! David was running the legal limit on SSB, but I only had 160 watts into a 10-element Yagi and I could not beat the local Melbourne noise floor.

Somehow I need another 4 dB! I have a 14-element Yagi available for

next time – I need a bigger PA, one that will fit in as much as possible with the existing system – this includes power supply, and vehicle storage space considerations. Having said that – I firmly believe contacts on 2 m over that 900 km path are possible. The last enhancement lasted long enough for me to retrieve my video camera from the 'boot' and capture video/audio of some of Dave's transmissions – including the chatting that took place after Dave abandoned his calling to me.

At 1000 am CDT on Friday 17th, I packed up (reluctantly) and made my way (slowly) down the track and back to Quorn to catch up with Peter, before setting off via Hawker to Stokes Hill Lookout, about 15 km NE of Wilpena Pound. Stokes Hill is 750 m ASL, and the locator is PF98im. I was set-up by 0400 Z.

The outlook from Stokes Hill was not as favourable as Mount Arden, with ranges to the south

and southeast raising the horizon somewhat. Tropo conditions had fallen away, too. In the next sixteen hours, eleven contacts on 144 MHz (VK5ZPG, VK5LA, VK5AKK, VK5ZK, VK5GF, VK5PJ, VK5ACY, VK5BC and VK3ATS) and seven contacts (VK5ZPG, VK5PJ, VK5BC and VK3ATS) on 432 MHz were made. 1296 MHz was a dead band – no signals made it through in either direction.

Steve VK2ZT recorded what might be my CW beacon on Saturday morning during the period when it was directed to Sydney/Newcastle; he has sent the audio file to me, but I have not as yet checked it to see if it is my signal.

I packed up and after a final check-in with VK5ZPG I started the drive back home. I stayed overnight in Murray Bridge, before completing the trip home on Sunday morning. On the way I had numerous mobile 2 m contacts, with VK5PJ, VK5ZK, VK3AXH, VK3WN, VK3KAY, VK3JTM, VK3II, VK3KH, VK3FIQ and VK3HZ.

## The Wash-up:

Overall, a very enjoyable and successful expedition! The experience at Mount Arden, coupled with the regularity and predictability of the air traffic between Adelaide and Sydney, demands a revisit to the site with a larger (louder?) station. Perhaps in autumn next year – summer might be a bit hellish up there.

Interestingly the mobile phone network was accessible at all three locations, which meant I was able to post messages to the VK Logger via the GPRS portal: nice work, Adam! Thanks to everyone who took the time to look/listen for me. And I am keen to QSL with anyone who succeeded in a contact with me from any of these three Maidenhead squares, and cares to do so.

Special thanks go to Peter Whellum VK5ZPG for his hospitality and his suggestion of trying out Mount Arden. I would also like to thank Malcolm and Judy Juett at Argadells Station for giving me access to Mount Arden at such short notice; and the other local amateurs, responsible for the Mount Arden 2 m FM repeater, who helped in directing us to Malcolm and Judith.

All photographs by the author.



Looking south from the Mt Arden ridge - antenna pointed to Adelaide. See front cover.



Moon is up! The night view from Mt Arden.

# DX - News & Views

John Bazley VK4OQ

Email: john.bazley@bigpond.com

Seasons Greetings to all DXers and hopefully we can look forward to an increase in conditions and openings again on 10m for worldwide DX!

It is good to receive news of planned DXpeditions for 2009, particularly from Bill VK4FW for a VK-based operation.

So now to the DX news.

Members of **Oceania Amateur Radio DX Group Inc** will be spending 10 days on Lord Howe Island for the 2009 CQ WPX (SSB) Contest in March next year, reports Bill VK4FW who is still looking for a few additional operators. The expected dates for the DXpedition are March 24th to April 3rd 2009. Bill has provided the following interesting background information to this operation:

Way back in 1992 when Len Holbrook (VK8DK) and myself went to Lord Howe Island as VK9LD, I first met Tony (VK9LA). When Tony after many years on the island decided to retire and move to Hervey Bay in Qld, Oceania Amateur Radio DX group Inc. applied for the call. We did this as a small token of our appreciation for the work that Tony had done

in keeping Lord Howe Island off the DXCC wanted list. In 2004 we mounted a DXpedition there which only netted some 17,000 QSOs with conditions best described as poor. On the published 2007 DXCC wanted list VK9L has climbed to #80 and this year I expect that figure to be somewhere around #65 to #68 so again we will embark for the beautiful island with a very experienced team of operators. As the 2009 CQ WPX SSB contest coincides with our visit, we will operate CW on all bands prior to the contest as well as RTTY on 15, 17, 20 & 30. SSB will take place only on 12 & 17 prior to the contest. In the contest we hope to have four stations working simultaneously. After the contest we will work all modes on all bands to mop up. Operators that have committed to go at the time of writing are: VK3QB, VU3RSB, SQ8X, VK5CP,

K5YY, SV2KBS, SQ9DIE, VK5PO and VK4FW. All updates for this operation can be found on the [www.odxg.org](http://www.odxg.org) system. We intend to freight some 1.5 tonnes of equipment to the Island by boat and this expense is high. We would appreciate any donations to support this operation, which can be made online at [www.odxg.org](http://www.odxg.org) 'CU' in the pile-ups de Bill Horner VK4FW.

Frank I2DMI plans his 2008 Christmas holiday from December 20th to January 5th in Bhutan and Nepal. He and his wife plan to sightsee in the mornings and early afternoons, then he will operate during the rest of the day - plus getting some sleep of course. He thinks his operating periods will likely be in the ranges of 0100-0300 Z and 1200-1900 Z. He already has his A52RY callsign for Bhutan, where he will be on from Thimphu, the capital city, on HF and RTTY only on the WARC bands. Bhutan will be December 21st

-31st. He will have an Icom IC-746PROII and Dentrone MLA-2500 amplifier.

For the second stop, Nepal, for I2DMI, 9N1AA is working on getting the licence for him before he arrives, though the licensing ministry may require his physical presence to actually

pick it up. All documentation and a notarised copy of his Italian licence have been sent ahead. His callsign may be 9N7DMI or 9N7RY; he will not know for sure until he gets there. He will be in Bhaktapur at the ham-friendly Planet Hotel, with a seven-metre-tall vertical on HF, including the WARC bands, set up on a terrace, running 50 watts. He will have a Wi-Fi internet connection so he will be able to spot himself to get the pileups started. Look for him from Nepal December 31st-January 5th. He is willing to receive info or suggestions at a new mailbox he has set up leading up to the trip: a52ry@yahoo.com.

The target frequencies for A5 and 9N will be 28082, 21082, 14082, 7040, 3582 and 10142, 18102 and 24922, listening up two or spread 2-10 depending on the pileup.

Frank will put the QSOs on LoTW and will e-QSL the second week of January.

Bureau cards will go out the third week of March. You can QSL direct to I2DMI, P.O. Box 55 - 22063 CANTU, Italy. Include a self addressed envelope and sufficient return postage. You will get your card via the bureau otherwise. No on-line log.

Now to the recent Willis Island DXpedition.

An extract from 'News Bulletin #13' issued 30/10/2008

The "VK9DWX-Willis Island 2008 DXpedition" is now history!

We closed the log with more than 95,000 QSOs (that is our first merger of all logs except the VK9DWX/mm QSOs during the voyage). A great adventure full of unforgettable moments and we are very happy in being able to serve so many hams around the world with a new one.

After 10 days of operation the sailing boat "Rum Runner" brought us new supplies (food and fuel) as well as the exchange of our 'rookie' operators. Josh had to leave and Rhy came to replace him. Another DXpedition visitor Gerd DK2JW came as well as Dale VK4DMC, our valuable and important support 'Agent' in Australia. They were very happy to have solid ground under their feet again, because the voyage was somewhat rough and certainly not a pleasure.

Operation on this DXpedition was a real challenge to everyone:

Fresh to strong winds every day, some days so powerful that the tents were nearly blown away or at least badly damaged. High tide climbed the beaches often higher than expected and swept over the feed points of the arrays, (perfect ground conductivity at least!) damaging the radial system completely. Turtles were another problem - some are really heavy (75 kg!) and snagged the coax and other cable from time to time, but fortunately caused no major trouble. Hundreds (or was it thousands?) of different birds, screaming (and smelling!) all day and night. Small crabs, flies and moths were perennial companions in our tents, but luckily did not bite. Day after day the sun shone down and the temperature soared to

35 to 40 degrees Celsius in the tents. Unfortunately we could not open tents due to the wind and the brightness of the sunlight: We simply would not have seen anything on the laptop-screens. Fans were only of little help and not a real relief. In spite of these unfavourable conditions, the equipment worked to our satisfaction. No major faults to mention. Internet access was limited to several hours a day, which made it impossible to update the log more frequently.

So - sad to say - we had to finish the CQWW SSB Contest on Sunday morning.

We took down all the 4-squares, verticals, and Vertical-Dipole-Arrays (VDAs) which served us so well throughout our DXpedition and made many contacts possible.

Once we were all back on the ship with our gear, the MV Floreat hoisted the anchors and headed east back to Cairns. We waved a last Good Bye to the island each of us with his own personal memories, leaving thousands of boobies, frigate birds, hermit crabs and green turtles in their ancestral environment.

After Norfolk Island in 2007 as VK9DNX, we are very happy to have participated in a new adventure with VK9DWX 2008. We enjoyed it very much and hope that we could meet at least part of our expectations. May be not every one could make it into our log. We are sorry for that and hope that there will be another chance for you soon.

We thank you very much for your cooperation and your understanding during times of heavy pile-ups and difficult traffic, especially on the low bands.

Thanks also to the many ham radio operators and other sponsors (like amateur radio clubs, societies and foundations) from all over the world who helped us with small and bigger financial contributions. Bringing this all together makes a DXpedition like ours not only feasible but also rather successful.

Good Bye Willis!

Thank you for this once in a lifetime adventure.

The VK9DWX Operation Team DJ5IW, DJ7EO, DJ9RR, DL1MGB, DL3DXX, DL5LYM, DL8OH, DL8WPX, SP5XVY, W4WJF, ZS6DXB.

We will be very happy to receive so many donations being sent from all over the world to support our DXpedition. Most of them are online in our sponsor list. If anyone misses his donation please

contact us via our contact form.

Our Online QSL Request System (OQRS) is now available. Please support us. Help to minimize our workload and use this OQRS. Choose between a direct QSL card or a bureau QSL card.

The advantages for you are:

- No need to send your QSL card (directly or via bureau).
- Do not lose money with direct post, just transfer your donation online.
- Get your QSL card earlier than through the old fashioned way.

The advantage for us:

- Much less work!

We will not offer any spectacular QSL card! We will offer a fast QSL service! Remember VK9DNX? Exactly one month after we returned home from the DXpedition we got our QSL cards from the printer. And only a few weeks later the first direct QSL cards were on the way to their recipients. And exactly this QSL service we want to offer again.

So please help us and try to request your QSL card online and help to make a good service better. Thank you!

Les Nouvelles DX reminds us that Roland F8EN will again be operating from Libreville, Gabon between December 15th and January 26th. He will use TR50R at first until the end of the year and then switch over to TR8CR on January 1st. QSL both via F6AJA.

D2QMN, Angola, started up September 25th by Vasily Kandrashev UA0QMN. Vasily is 46 years old and has been in Angola since 2004. QSL via RZ3EC. His QTH is Vila Catoca in the Lunda Sul province, 40 km north of Saurimo, the capital province. He has an Icom IC-7000, 100 watts, to a delta loop for 20, 7 m high, a 2-element quad for 20, 15, 12 and 10 m, and a ground-plane for 40 is planned. He operates SSB, CW, RTTY and BPSK.

In the next issue I should be able to quote extracts from the "most wanted" list, which is compiled annually.

Happy DXing.

Special thanks to the authors of *The Daily DX* (W3UR), 425 *DX News* (1J1QJ) and *QRZ.DX* for information in this months *DX News & Views*.

For interested readers you can obtain from W3UR a free two week trial of *The Daily DX* from [www.dailydx.com/order.htm](http://www.dailydx.com/order.htm)

## Over to you

### Faure Island

I would like to inform the AR Magazine and its readers that Mal VK6ISL and his son Dr. Rhon Johnson were the first to apply amateur radio to Faure Island, receiving the official IOTA reference OC 206 12 May 1995.

I quote from your November 2008 magazine...

"Faure Island had never been activated for amateur radio before and this proved an irresistible challenge to the DXCC."

I am afraid this is incorrect.

Please refer to AR Magazine July 1995 Volume 63, number 7: VK6ISL "Faure Island"

Faure Island was one of 17 islands I had officially referenced in the IOTA Program from 1989-1999.

Malcolm K. Johnson, VK6LC

### John Sparkes VK6JX responds:

The DXCC had a fantastic time (apart from the flies!) setting up and operating from the Island and it was great to once again get this location on the world stage via amateur radio.

I wrote the article which (mostly) appeared in AR, so any issues with it should have been addressed to me. The wording of the offending sentence should obviously have been:

"Faure Island had never been activated for amateur radio by the DXCC before and this proved an irresistible challenge to the DXCC."

Mr AR Editor, please inform the readership of the missing three words above from this sentence in my article.

Now, with regard to your comment that Faure Island is only 2 km from the coast, a quick check on Google Maps shows that the closest points on the island to the WA coast are approx. 6 km north of the Nanga peninsular and 9 km east of a small headland on the coast, 10 km south of Monkey Mia respectively. Of course, our DXpedition left from the public launching ramp at Monkey Mia which made the distance to our landing point on the southern end of the island (in small private boats, mind you!) approx. 22 km across shallow, choppy seas.

I hope you enjoyed the rest of my article! Mni gd dx es vy 73,

John VK6JX

ar

# Pirates on the two metre band

Terry Stewart VK4AAT

Recently I heard, on 147.015, in the Logan area to Brisbane's south, a FM broadcast consisting of music, a video or a video game console.

The carrier remained on when not transmitting program so finding the source would be easy. With a hurriedly constructed two metre, three element Yagi, I set off to find the transmitter.

Needless to say, after taking five or six bearings, I was standing outside the offender's house. The location turned out to be 1.6 km from my home, and the source had a good S9 plus signal, so you can see these devices appear to have a very high output.

It should be pointed out here that if you encounter a similar intruder, under no circumstances should you approach the people you believe are responsible. Simply take a note of the address and ring the ACMA.

After ringing ACMA in Canberra, I received a call from their field officer

— in Perth would you believe. He took details, along with the offender's address, and assured me that he would contact the Brisbane office. It was not long before Graham Stephenson rang from their Brisbane office, and a few days later another call came from Graham to let me know that the address was correct, he had sighted the device and advised the owner that although this unit has been incorrectly C Tick approved, it is in fact not permitted to be used because it radiates on the two metre amateur band frequency of 147.015 MHz.

Apparently under the law ACMA has first to present the offender with an official letter, and on receipt of this letter the device has to be turned off. Failure to comply is a \$400 fine. Several days passed and the device was still on air. Another phone call to Graham and shortly after the device was turned off.

It would appear that the unit sells

for around \$60 and the thought of having to pay \$400 convinced the offender to turn it off. It is worth noting that the importers of this device in Sydney have been fined \$1500, however their distributors are still selling these devices. In Brisbane it is estimated there are around 60 units either on the shelf or in the process of being sold. The device is known as 'OMNI WEP-910D Wireless Headphone plus Microphone'. This unit was also being sold on eBay, from a location at Petrie.

I have it on good authority there could be as many as 160 of these units out there, so tune around 147.015 and, if you find one in the Brisbane area, contact Graham on 3247 7170. Outside of south east Queensland, contact ACMA on 02 6219 5555.

I would like to thank ACMA, and in particular Graham Stephenson for their prompt action in keeping our bands free of intruders.

BT

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# Northern Rivers district 2008 JOTA/JOTI at Murwillumbah

Reg Robinson VK2FARR

Well, it all happened again! Yes, groups from Ballina, Goonellabah, Mullumbimby, Byron Bay,

Brisbane Heads, Chinderah and Murwillumbah turned up to a little property at Waldrop Road, and set their up bases, complete with radios and computers.

There were 125 Scouts, Cubs and Guides, and lots of leaders with lots of tents, and we all enjoyed great weather for the whole period. An added attraction was a giant water slide nearby, which was a challenge from the top of the hill, but this

challenge was achieved by lots in the group. There were some very tired Scouts and leaders by the end of the weekend.

With the equipment set up, there were lots of contacts made around the world, the operators being kept busy with contacts into Canada, England, Germany, Fiji, Malta and lots more. In addition, we also had EchoLink going as well, and that was good with the scouts.

Our location was good and we had a steady flow of scouts from the Gold Coast ARS JOTA site (VI4JOTA and VK4WIG) and from Lismore, from the Summerland ARC JOTA site (VK2SAC and VK2SRC), so radio operators Bruce VK2VA, Steve VK2POO and Reg VK2FARR were kept busy.

So, until next year keep scouting and amateur radioing.

ar



Reg VK2FARR, Kendall VK2FISH, Annette VK2FUSE, Bruce VK2VA and Aaron VK2FUNN enjoy the radio activities.



Reg VK2FARR and Bruce VK2VA at the controls at Murwillumbah.

## Over to you

### Speedy response to AR Index query

This is just a brief note that I hope you will be able to publish to recognise the terrific behind the scenes work that the WIA team does. One Saturday night in late October I sent an email to AR magazine [armag@wia.org.au](mailto:armag@wia.org.au) enquiring:

"I am trying to track down an article in a past (long past) edition of AR. I think it was in AR in '75, '76, '77 or '78. Can you advise where I can read a consolidated index or annual indexes for past ARs?"

I had a response from Ernie VK3FM within 90 minutes asking if I minded waiting for a bit and on Sunday morning,

less than 12 hours after my original request, he had the required index to me. In sending me the index he said:

"Mike, it is marvellous what some people can come up with at very short notice."

I replied:

"More than marvellous, simply astounding. I just said to my wife, 'You have to love the helpfulness of the ham community.'"

I found the clue I was looking for in the index and scrolling through the list of articles brought back many memories of my first years as an amateur operator.

Many thanks to Ernie and the rest of the WIA team for the marvellous work they do.

Mike VK100 (ex VK1KCK)

*Editor's Note: On behalf of the PubCom team, I thank Mike for his comments. Readers may be interested to note that there is an Index of AR available on-line at:*

[http://hamradio.bur.st/arindex/arindex\\_list.php](http://hamradio.bur.st/arindex/arindex_list.php)

*This Index was developed by Dale Davies VK5DC, with data from the WIA and Mike Krochmal VK3KRO. It currently covers 1945 through to the end of 1997. PubCom has been discussing the issue and is keen to extend the data collection through to the latest annual Index and to then make the information more widely available.*

*More news on the project will be released as soon as we have made progress.*

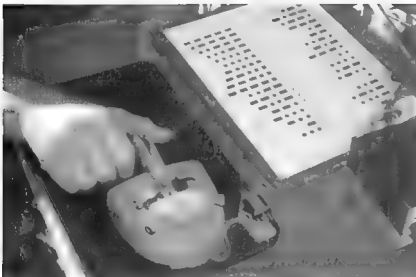
Peter VK3KAI

ar



## Redcliffe and Districts Radio Club, and nearly 200 Scouts, enjoy JOTA

Cec Kenny VK4CF



A 'learner keyer' perhaps

For the last few years Redcliffe and Districts Radio Club has been supporting JOTA, and what started as a couple of Scouts in the first year has risen to where it was almost 200 this year.

The club based its activities at the Murrumbidgee Scout campsite near Petrie, just north of Brisbane, for the JOTA weekend. The camp is over 150 hectares of natural bushland with 16 sites scattered throughout the grounds. Last year Redcliffe offered an amateur radio scholarship for two Scouts that visited the campsite. One of the successful applicants was Lauren VK4FLMC.

Lauren's father, Gary VK4FGAZ, is the caretaker of the Murrumbidgee campsite. Gary and his XYL Anita not only publicised the event within the

*continued next page*

## Summerland ARC



The Summerland ARC was in attendance at the Lismore Show on 18 October, and combined this activity with the JOTA/JOTI event.

At the Lismore Show, Lismore and Casino Scouts went to air. Many Scouts, Cubs and Guides made radio contacts, both local and DX

Not as many stations were on as we had hoped, but there were enough to keep busy.

There was some competition from show spruiking loudspeakers, and so on, but HF, 2 m, 70 cm and IRLP all were used successfully.

Thanks to all who helped make it a good outing, but particularly Ian Gray VK2IGS and Duncan Raymont VK2DLR, who were instrumental in organising the event.

Information courtesy of the Summerland ARC Newsletter

BT



The Summerland ARC operating area, and some interested Jota participants.



The Summerland ARC set-up at the Lismore Show.



Scouting movement within south-east Queensland but also co-ordinated the visit of 300 Scouts who booked the campsite. A number of Scout groups were turned away as the site was fully booked.

This year's activities were divided into four areas: HF radio stations on 40 and 20 metres, a two metre radio on Echolink, an electronic kit building area and a CW station where the children sent their names in Morse code.

Kits built by the Scouts included crystal radio sets, flashing LED boards and an electronic fog horn. Eight club members provided their solder stations as well as coaching and experience for the kit building exercise. It was a delight to see the expressions on the Scout's faces when they hooked their crystal radio to the long wire and heard their first SW signal or connected their battery and heard the horn or lights flashing.

One Scout was seen with his crystal radio set walking around looking for metal objects to load up the antenna.

Scouts and Cubs experienced CW by sending their names in Morse on Morse keys that were at least 100 years old. Club members who volunteer at the Queensland Telecommunications Museum were able to bring along Morse keys dating back to 1860 and show about ten different period pieces that were instrumental in the telegraph office.

The Chief Commissioner of Scouts Queensland, Maurice Law, visited the campsite on Saturday afternoon and spent about two hours watching and participating with the Scouts, Cubs and Guides and was very impressed at what the club had done to spark the interest and activity of all the visiting groups.

Another of the club's special guests was the Vice President of the WIA, Ewan McLeod VK4ERM. Ewan took a range of photos of the activities, some of which may be published with this article. He spoke to Redcliffe members about the WIA and the club enjoyed his stay especially for the campfire roast dinner on Saturday night, prepared by Peter VK4EA and Glenn VK4FZ, and a great band of willing helpers which has become an integral part of every Murrenbong camp.

Forty five club members, about 40% of total membership, were involved with some aspect of the JOTA weekend and it

is a credit to all of them that the weekend was such a great success.

Our HF set up was all 12 volt this year, with a 20 metre monoband Yagi antenna at 15 metres off the deck on top of John VK4YJV's crane, and an 80 metre dipole some 20 metres into the tops of the gum trees. After dinner, club members hit the airwaves and recorded contacts all over Europe. It was a great opportunity for some of our younger members to experience a pile up and really get some great DX.

The club's JOTA aim is to ensure all members of the Scouting community make contact with other Scouts and the Scouts are exposed to as much as possible of the many aspects of our

hobby and each year we look for extra facets of the hobby that we can include to fulfil this aim.

One memorable comment by one Scout was 'this is so much better than JOTI (the internet version of JOTA), I want to stay here all day'.

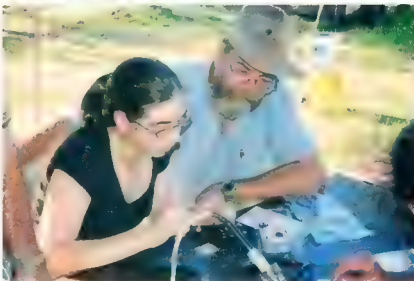
As Andy VK4KY, who helped supply the kits and set up all the HF gear said 'if we don't fly our flag as amateurs and show the community that we are here, then who will?'

Murrenbong camp is almost fully booked for next year's JOTA. What a wonderful way to spend a great weekend!

AT



Participants enjoying the evening roast. Camp oven cooked potatoes, yes please



Gary VK4FGAZ and Lauren VK4FLMC



# The Tranmere Sea Scouts – Jamboree of the Air 2008

Andrew Bolton VK5HIL

The Tranmere Sea Scouts (VK5TSS) hosted a Jamboree of the Air/Jamboree of the Internet Station on Saturday 18 October. The event was attended by 71 members of the Tranmere and other eastern Adelaide suburbs Scout groups. Although HF conditions were sporadic, a good number of exchanges occurred on the lower

HF bands. Operation of the Tranmere Sea Scouts two metre equipment was supervised by two Scout F call licence holders who were kept busy during the event. Internet based communications were popular due to greater reliability. The event was a success due to the efforts of members of several VK5 clubs.



HF inband antenna over a three element Yagi. Portable mast and antennae loaned by Paul, VK5PH.



Patrick calls CQ.



Trevor VK5ATQ gives directions to the antenna installation crew.

At 1100 hours on Saturday 18 October, the Tranmere Sea Scouts Jamboree of the Air/Jamboree of the Internet station, VK5TSS, went live.

Proceedings departed slightly from the event in 2007 with members from other eastern Adelaide suburbs Scout groups invited to participate in the 51st JOTA/12th JOTI at the Tranmere venue.

The 71 attendees were also given the opportunity to partake in activities leading to the award of the Communications Proficiency Badge. Activities included the construction and use of a LED torch to sign in Morse, use of semaphore, fox hunting, writing a secret message, play a game of battleships using UHF CB radio, setup and demonstrate the function of a VHF portable station and, naturally, to exchange messages with fellow JOTA participants elsewhere.

Charlie VK5KDK made a significant contribution in organising the event.

There were two Scout Foundation Licence holders present and both were able to assist participants with the correct operation of the VK5TSS two metre equipment.

Internet augmented communication with EchoLink was provided via a 2.4 GHz link to an external site. This proved quite popular due to its greater reliability.

Two HF stations were set up under a marquee at the rear of the hall. One transceiver was also capable of six metre operation, so a temporary mast was erected to support a HF tribander over a three element six metre Yagi.

Wire dipoles were also used for HF. Nearby gum trees provided more than adequate support for these antennae and also gave welcome shade during the event.

Voice communications were difficult, but not impossible on the lower HF bands: 80, 40 and 20 metres.

Unfortunately, propagation conditions varied from workable through to impossible within one or a few minutes after initial contact was made. Nevertheless, with perseverance, a good handful of contacts was made with JOTA stations in VK3 and VK4. The six metre band was uneventful this year.

Members of several clubs including Scout Radio and the North East Radio Club were generous with their time and equipment loans to ensure this event was a success. All participants look forward to a great Jamboree in 2009.

**Acknowledgements:** Trevor VK5ATQ, Peter VK5PX and Charlie VK5KDK for their encouragement and feedback.



Peter VK5PX and Les VK5KLD deploying a multiband HF dipole antenna.



Les VK5KLD provides assistance with the installation of an HF dipole antenna.



Gerard VK5ZQV gives Scout participant Matthias a brief rundown of current HF propagation conditions.



Matthias calls CQ.



Lana calls CQ.



# Ipswich and District Radio Club – Jamboree of the Air 2008

Michael J. Charteris VK4QS

It has been a decade since the Ipswich & District Radio Club has held a 'Jamboree of the Air'. And might well it have stayed that way, if it were not for an email from Toby Gordon, Cub Leader, at the Taringa Milton Toowong Cub Pack.

Toby had been to the WIA website in search of an amateur radio club nearby that would be kind enough to undertake some 'radio activities' for the JOTA. By good chance, he selected our club and contacted myself as regards this request. Toby informed me that he would be bringing some thirteen Cubs, ranging in age from about seven to ten years of age. We arranged to have them visit the club on Saturday afternoon around 4 pm for some radio excitement.

Saturday afternoon arrived soon enough, and the plan of action kicked in. We divided up the Cubs into groups of four and five and duly sent one group down to the Nature Park that backs onto our clubhouse. We then sent another group for a walk up to the Ipswich Water Tower for some adventure. The top of the water tower can be accessed by steps to the roof, where a most beautiful view of the city of Ipswich can be admired by one and all.

The third group of Cubs experienced for the very first time the joys of amateur radio. Our activity began on the 40 metre band where we made contact with a group of scouts in New South Wales. From here we put the Cubs on the two metre band, where upon they spoke to the Scouts located at the Gold Coast Radio Club. The smiles on their faces and the giggles said it all. They were having fun communicating with other children their own age and older by way of our great hobby.

About twenty minutes later the other two groups arrived back from their adventures. We now swapped the activities of the groups and saw a new group of five launch onto the airwaves with much anticipation and vigour. Once all the groups had been to the nature park as well as the water tower, it was time for some refreshments with the issue of a packet of chips and a can of soft drink.

By now it was nearly 6 pm, and

we decided it was time for the sausage sizzle, and requested they all line up in an orderly fashion for the issue of hot sausages on bread. This was a huge hit, and many ventured for seconds and thirds to quell their appetite. And with the sun disappearing into the west ever so slowly, we decided it was time for all the little Cubs to head back to their cub den for further activities of that evening.

I would like to thank Cub Leader Toby Gordon and Alan and Gary for their efforts in transporting and supervising the Cubs whilst at our clubhouse during this somewhat special JOTA event for the Ipswich & District Radio Club.

I also took the opportunity to expound the values for both Toby and Alan in undertaking the 'Foundation Licence' with a view to expanding their radio knowledge and thereby help the Cubs understand it all a lot more for future JOTAs. I would also like to especially thank the following

members of the Ipswich & District Radio Club for their wonderful assistance in making this momentous event the success it actually was: Darrin Last VK4FVRX, Anthony Costello VK4FAAT, and Gary Nielsen VK4KNE.

We are now planning to hold JOTA again next year, with some added adventure for the Cubs, having experienced the joy of participation in this most rewarding event for the year 2008.



Mike VK4QS serves the very popular sausage sizzle. It is not only the young who look very interested in the food!



The Cubs relaxing in the Ipswich & District Radio Club clubrooms

ar

## VK6

**Keith Bainbridge VK6XH**

My plea for input was a fruitful one this month, as there has been a good supply of emailed news to this QTH. We will start with the D-STAR report from Anthony VK6AXB.

### **D-STAR Launched in VK6**

After months of planning and much effort by the West Australian Repeater Group (WARG) D-STAR team, the Perth VK6RWN D-STAR repeater was officially launched on October 18th. A crowd of more than 50, including some who had travelled from country areas, packed into the Darling Range RSL hall to hear the D-STAR message from WARG, WIA and Icom Australia representatives.

After a welcome from VK6RWN site manager Danny VK6FZUK, WIA President Michael Owen VK3KI opened proceedings, noting that the launch was taking place almost exactly a year after the VK6 D-STAR committee first met to begin work. Michael outlined the key role of the WIA in the national D-STAR project, including selection of each D-STAR club on the basis of demonstrated 'substance, skills and enthusiasm'. The development of the D-STAR protocol by the JARL (Japan Amateur Radio League) and the work of Icom in making D-STAR a reality were also highlighted.

Michael introduced Icom Australia's Peter Willmott VK3TQ, describing him as first and foremost an 'enthusiastic amateur, most suited to bridging the gap between the amateur and commercial radio worlds'. After paying tribute to the work of VK6 D-STAR managers Heath VK6TWO and Danny VK6FZUK, Peter gave a snapshot of the history of D-STAR development, its benefits and features as a global system, the role of the WIA in facilitating the rollout of D-STAR in VK, and highlighted various aspects of the system, for example, the linking of all 70 cm DV ports to enable a nationwide conversation.

After a few words from Icom Australia President Takashi Aoki VK3NON, WIA D-STAR co-ordinator Richard Hoskin VK3JFK delivered a technical

presentation on D-STAR usage, radio configuration and the dos and don'ts of D-STAR operation. Following closing remarks from VK6 D-STAR manager Heath VK6TWO and WARG Technical Co-ordinator Anthony VK6AXB, the gathering enjoyed refreshments and a BBQ, cooked to perfection by Jon VK6NOW.

A donation by Icom of an IC-92 D-STAR handheld as a raffle prize was met with warm applause by those present. Thanks are due to Icom supplier Tower Communications for setting up on the day, and to Jim VK6JIM for arranging the venue at short notice, as WARG's usual meeting place was unavailable due to JOTA. Anthony also reported that pictures are available at this url: [http://members.iinet.net.au/~stretton/dstar\\_launch.zip](http://members.iinet.net.au/~stretton/dstar_launch.zip)

**Anthony Benbow VK6AXB**

Next we heard from Phil VK6SO reporting on the results of publicizing a proposed club formation in Busselton.

### **Capes Region Amateur Radio Meeting**

A meeting was held on 18 October at the Senior Citizens venue in Busselton, to establish an amateur radio club. The meeting attracted five licensed amateur radio operators, two people interested in getting a Foundation licence and one visitor. The instigators were also contacted by three other local amateurs who were unable to attend the meeting, one being an elderly amateur operator, house bound due to illness, but who supported the concept of the club. The meeting was well prepared by local amateur radio operators, Phil Bussanich VK6SO and Shaun Palmer VK6FSAP setting up the venue, and providing amateur radio information handouts, study details, internet web access to the Ham College, a study centre set up in Perth to train and license would-be amateur radio operators.

The meeting decided to form an amateur radio club and it will be known as the 'Capes Amateur Radio Club'. The club will have its inaugural meeting on 26 November where office bearers

will be elected and the club formally launched.

The aims of the club will be to:

Foster and provide a platform for local amateur radio operators.

Attract new members to the hobby.

Become a focal point for the Capes Region for those interested in amateur radio.

Provide communication experienced operator assistance to various groups such as bush fire brigade, marine coastal watch services and Girl Guides and Scouts.

Provide and maintain amateur communications equipment within the region.

Have a plan for amateur emergency communication in the event of civil disaster.

We wish to acknowledge the following supporters:

The Wireless Institute of Australia.

The Ham College.

The Busselton Senior Citizens.

The Busselton - Dunsborough Mail community newspaper.

For further information contact Phil Bussanich on 08 9751 5560

I should also report the meeting attracted the attention of the local press and an article was duly published, although unfortunately the scan of the article was not good enough to be reprinted here.

Good luck to all.

**Phil VK6SO**

### **JOTA**

JOTA seems to have been very successful this year with several groups reporting their activities, so here is one of them from the Peel group in Mandurah.

The Peel Amateur Radio Group joined the 1st Mandurah Scouts and Jceys for JOTA at the Baden Powell Hall this year. There were Scout and Joey troops also from Falcon, Pinjarra, Rockingham, Warnboro and Secret Harbour, so we were kept busy. The station only operated until 9 pm as other things had been planned by the scout troops for the weekend.

Many contacts were made on 2 metres

# News from...

VK6 continued

both local and over on the east coast using the IRLP mode, the children were as usual nervous on the microphone to start with but soon got going. The conditions on HF were not good but we managed to make contacts into Queensland and Victoria.

The children had been studying for their codes and signals badge, a message was written in Morse and they had to decipher it. We had a Morse key and buzzer set up, they had to write their name in Morse then send it by using the key - there was a never ending queue to get on the key.

Thanks go to our club members Paul VK6LL, Rev VK6SA, Wayne VK6FBLU, Joanne SWL, Marty VK6FDX, Milan VK6KTV and Rex VK6SN, for a most worthwhile weekend.

Rex W. Hickling VK6SN

## From the Deep South

The Southern Electronics group in Albany is having a new lease on life with a new committee comprising:

President: Wes Beck VK6WX  
Vice President: Robert Seaman VK6JRC  
Secretary: Bevan Lang VK6VX  
Treasurer:

And the website is <http://www.hamradio.org.au/site/>

I will be visiting on Wednesday 26 November, in my role as VK6 Advisory Committee Chairman, and I believe we will be meeting in a local hostelry for a few ales and a bite to eat, so I cannot wait!

## NCRG and Lotteries West

Finally this month some news from the Northern Corridor Radio Group.

The NCRG applied for a Lotteries West grant to improve the club station and increase the range of the WIA news broadcasts, among other things. We waited with bated breath for some months while the processes were taking place and we were delighted to receive notification that our application had been approved!

We would like to thank Lotteries West for their generous funding and I would also like to thank the club team who put together the application.

As a result of this application, the club is able to purchase two fully loaded Elecraft K3 transceivers, two Monster Ozspid rotators, a Six Pack antenna control system and a full set of I.C.E. bandpass filters. With the proposed addition of three new 30 metre (100 ft) towers in the near future, look out Australia, there is one premier Contest and DX club on the horizon!

So this month things are really looking rosy on the VK6 scene, hopefully next month will be just as exciting.

I had better take this chance to wish all amateurs, SWLs and their families the compliments of the season as Xmas will be upon us soon and hopefully a chance for many of you to take a well earned break with your families and WORK some DX!

All the best for Xmas.

VK6XH  
M

# Corrections

## Faure Island DXpedition

Please note that the author of the article "DX Chasers Club - Faure Island DXpedition, 2008" was incorrectly recorded. The author was John Sparkes VK6JX. See also the *Over To You* item on page 27.

Also note that the cover photograph was taken by Jo Williams.

## Wideband Return Loss Bridge by Paul McMahon VK3DIP

*Amateur Radio*, August 2008, page 11

Right Corrected Figure 1a

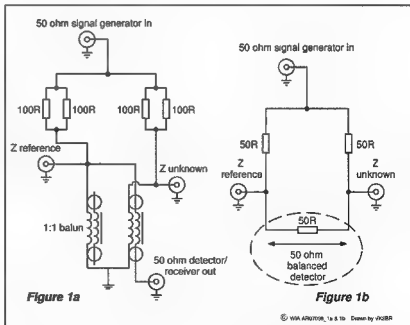


Figure 1a: Note that the 4 wires close to the "Z reference" connector should be connected!

© WIA AMR0808\_1a & 1b Drawn by VK3DIP

## VK2

Tim Mills VK2ZTM  
c/- amews@tpg.com.au

### ARNSW

Season's Greetings from ARNSW to all. The operating year for ARNSW ends on 31st December, after which it is time to start adding up the figures and writing reports for the AGM, which will be held about mid April 2009. No dates were available when these notes were compiled but based on previous years, there will be the call for Council nominations and agenda items at about the end of February. The Council year is April to April. More details in the February issue of AR, in news bulletins and on our web site. This will be an important time for members of next year's NSW Council - for within that term of office, it will be the centenary of the formation of the WIA (March 2010), which resulted from a meeting held at the Hotel Australia in Sydney. The meeting had been called by concerned experimenters at the high cost of the licence fee in 1910. Those at the meeting decided to form an "Institute" to collectively look after their interests with the authorities. The rest, they say, is history. Over the years WIA Divisions were formed in each call area. These days, while NSW Division trades as Amateur Radio New South Wales, (to reduce any confusion with the National WIA), the holding Company remains the Wireless

Institute of Australia, New South Wales Division. Like Victoria, these two former Divisions are independent registered companies.

It is pleasing to see many VK2s are upgrading and obtaining new call signs, either from examinations or conversion to a two-letter call. So that the ARNSW membership records remain accurate, would you mind sending a note to the Membership Secretary, advising of the changes. The postal address is P. O. Box 6044, Dural Delivery Centre, NSW 2158.

The "Shed" or Barn is progressing well at the Dural site. For those who know the VK2WI site, the "Shed" will be located to the western side of the VK2WI building and to the road side of the existing small shed. It will be on a concrete slab, having a footprint of 24 x 9 metres and within the shed there are two levels. On the front [east] side there is a veranda 24 x 3 metres to provide shelter at major events. The "shed" will be at a slight angle to the western wall of the original VK2WI building, with an open area of about 15 metres between the two buildings. The wider end of the opening is at the Quarry Road end. While the site for the shed is almost flat - it slopes down slightly from the western rear - some earthworks have to be carried out. The roof presents a large catchment and a water tank is included. Reports on progress can be found on the ARNSW web site [www.arnsw.com.au](http://www.arnsw.com.au)

The first Trash & Treasure event for 2009 is scheduled for the Dural site on the last Sunday in January - the long weekend. The T&T is in the morning with the Home Brew and

Experimenters Group in the afternoon. Yet to be confirmed, the monthly evening Home Brew gathering may be held on the first Tuesday of January.

### Clubs

As the holiday season draws near, many clubs skip a January meeting, particularly those which occur early in a month. Some which come to mind are the Oxley Region at Port Macquarie, Hunter Radio Group in Newcastle and St. George in southern Sydney. So that members and visitors can be informed, would club publicity officers send in news items for VK2WI ([arnews@tpg.com.au](mailto:arnews@tpg.com.au)) for details of your holiday meetings. VK2WI maintains the morning bulletins during the holiday season. There is a break with the evening sessions as detailed below in the VK2WI report.

In case you have missed the announcement, the Mid North Coast ARG have their now annual field day at Coffs Harbour on Sunday the 18th January. This will also be about the final reminder via AR of the Central Coast Field Day at the Wyong Racecourse on Sunday the 8th February 2009.

The Mid South Coast ARC held their deferred AGM early November at Huskisson. After many years of meeting to the west of Milton, they spent this year meeting at different locations after the former venue was sold. Even their repeaters have to find new homes after the new owners required all RF removed from the area. This included a couple of community radio transmitters. The next meeting on the Mid South Coast ARC is scheduled for the second Saturday in February.

### VK2WI

At the end of October, when the short wave broadcasters introduced their new seasonal schedules, our 40 metre frequency (7146 kHz) was back in the clear from an adjacent service. This condition hopefully remains until at least the end of March 2009, the next schedule period. Hopefully, the broadcasters currently in the 7100 to 7200 kHz

### Radio Expo 2009

#### Coffs Harbour

### Sunday 18th January 2009

Hosted by the Mid North Coast Amateur Radio Group

Over 20 exhibitors • Club displays • Emergency services displays • Amateur retailers all major brands • Portable radio tower equipment • Lucky draw prizes every hour

Guessing comps - Trivia quiz  
Home brew - Buy, swap and sell  
Historical radio equipment

Yummy hot food and cold drinks Entry \$5.00 per person

St Johns Church Hall,  
Mc Lean Street Coffs Harbour

8.30am till 3.00pm

More info on [www.mncarg.org](http://www.mncarg.org) or phone

Phone 02 6655 2990

# News from...

VK2 continued

spectrum will have moved further up in their 41 metre band, as required. There appeared to be an improvement in morning HF conditions during November, ground wave propagation returned to 40 metres, on occasions.

The Hunter Radio Group has concluded their Monday evening news (VK2AWX) net for the year. It resumes, as do their monthly meetings, in early February. As mentioned above, VK2WI has a summer news format, morning only, for December 28th and January 4th and 11th. During both this and other times please submit news for VK2WI via [arnews@tpg.com.au](mailto:arnews@tpg.com.au)

On the weekend of the Central Coast Field Day, VK2WI has a Saturday evening (7/2/09) news bulletin at 7.30 pm in addition to the Sunday sessions. The morning session depends upon a couple of the team opting not to go to Wyong. The first quarter roster for 2009 will be from the 18th January to 29th March. If you would like to be part of the team, contact roster officer John VK2JV via the news submission email address.

The 23 cm VK2RSY beacon continues to be heard beyond Sydney. There was a recent report from VK2JDS, who is near Bathurst. Thanks Dave. To date,

nothing has been reported from north of Sydney. The beacon project recently received a donation from a member with his renewal. This is being put towards the new antennas required for the 6, 2 and 70 beacons. Thank you. Equipment is being assembled for these bands. 6 metres, on 50.289 MHz currently uses a transceiver, which is to be replaced by a dedicated transmitter. 2 and 70 also require dedicated transmitters.

Season's Greetings and all the best for 2009.

73, Tim VK2ZTM.

## VK3

### Amateur Radio Victoria News

Website: [www.amateurradio.com.au](http://www.amateurradio.com.au)

Email: [arv@amateurradio.com.au](mailto:arv@amateurradio.com.au)

Ross P'tard VK3CE

#### Seasons Greetings

On behalf of the Amateur Radio Victoria Council – Jim Linton VK3PC, Barry Robinson VK3PV, Peter Mill VK3APO, Keith Proctor VK3FT, Terry Murphy VK3UP and myself, compliments of the season to all and best wishes for a Happy New Year.

A reminder that the office at 40g Victory Boulevard, Ashburton, will close at 1 pm on Tuesday 16 December and reopen Tuesday 3 February.

During the break, urgent matters will be given priority while office-bearers report on financial statements, stocktaking and the annual audit.

The Annual General Meeting will be held on Wednesday, 20 May 2009, at St Michael's Hall, corner Victory Boulevard and High Street, Ashburton, commencing at 8 pm.

Nominations for the 2009-2012 Council can be made on a form available from the Secretary. The deadline is 2.30 pm on Thursday 19 February, 2009. Notices of Motion, for the AGM close on the same day.

#### Keith Roget Memorial National Parks Award

Summer has arrived and it provides a great opportunity to dust off the portable

equipment and get out in the great outdoors.

Manager of the award, Chris Chapman VK3QB advises that since its re-launch in September we have already had a few parks activated.

The Keith Roget Memorial National Parks Award had its first two activations recently with both the Dandenong Ranges NP and Yarra Ranges NP being put on air.

Amateur Radio Victoria Event Coordinator, Terry Murphy VK3UP and Michele Grant VK3FEAT talked about activating parks while at the International Lighthouse and Lightship Weekend in August.

They chose two national parks on the eastern edge of Melbourne. First up was the Dandenong Ranges NP that plays an important role in protecting a population of lyrebirds and other fauna.

After some hours of operating it was then off to the Yarra Ranges NP that stretches from Healesville to Warburton and beyond to the north of Marysville. Easy to access points were chosen in both parks for the prop and go portable operation.

Excellent spring weather made the VK3WI Amateur Radio Victoria activation of these two parks a pleasant

experience, and gave a number of people their first parks for the award.

Chris VK3QB reminds us that the full details including the rules, park locations and award criteria can be found in the Awards section of the website.

The Award certificate is still in the design phase, but we expect it to be ready in draft by the time the first applications hit the desk – hopefully!

Recent correspondence has been received in relation to what counts as a national park – and Chris has provided some further clarity on the rulings in this matter.

In considering the award some careful thought was given as to whether to include Marine National Parks.

For a number of reasons, including wanting to honour the intent of the original award, that a number of Marine National Parks have high conservation issues and are inaccessible or mostly underwater, it was decided to stick with the 41 National Parks. Furthermore, administering a greater list of parks across various geographical and governmental boundaries would not warrant the effort.

Many of the parks are located well within easy reach of Melbourne – and those intending to visit the parks are



encouraged to publicise their planned activations – this may also provide the ideal opportunity to 'team up' with some younger members and provide transport to the location for a day/weekend of portable operation.

It is a great opportunity for clubs to integrate a National Park operation into club activities – maybe even generate some competition within the club ranks.

So please email Chris VK3QB [natparks@amateurradio.com.au](mailto:natparks@amateurradio.com.au) giving at least three to four weeks notice so he can publicise the planned operation dates, frequencies and other details – and make the effort well worth while.

### 24/7 volunteers

While the Amateur Radio Victoria office at 40g Victory Boulevard, Ashburton is only open Tuesday's 10 am to 2 pm the work of the organisation continues beyond those hours.

The office is primarily to process mail, membership applications and renewals, some public inquiries, keep the QSL bureau up to date and assist with membership services.

A team of five rostered volunteers plus two involved directly with the QSL bureau do a very good job that helps the administrative side of our volunteer organisation function well.

The bulk of correspondence over the past decade has been via email which is handled by the Secretary, President, Education Team Leader and Event Coordinator. Their work is over seven days of the week with the aim of dealing with inquiries promptly.

The Internet Project Development Officer, Gary Furr VK3FX continues to play an important role through the website and e-news. There are other team members of course, so apologies for not mentioning everyone.

Some new volunteers are required for 2009, with a particular need being for a Foundation Licence class instructor for the monthly Saturday training sessions.

### Membership inquiries

To join and support the state-wide organisation Amateur Radio Victoria costs \$30 for Full or Associate membership and \$25 Concession, for

two years. New members are most welcome and an application form can be found on our website or posted out on request.

### Foundation classes

Training and assessment sessions for the Foundation Licence will be held on the weekend of 13 and 14 December.

For inquiries or to enrol contact Barry Robinson VK3PV on 0428 516 001 or [foundation@amateurradio.com.au](mailto:foundation@amateurradio.com.au)

This month Amateur Radio Victoria marks three years of licence classes since the restructuring of the licence system and has held 40 assessment sessions.



Operating portable in the Yarra Ranges National Park.

**Yarra Valley Amateur Radio Group Inc.**  
C/o P.O. Box 346, Healesville, Vic, 3777

**WHITE ELEPHANT**  
*Sale*

**Sunday 15th February, 2009**

**10am to 2pm**

**Healesville Memorial Hall**

**Maroondah Highway, Healesville**

**For further information:**

**Steve VK3TSR**

**0418 103 487**

## News from...

### Geelong Amateur Radio Club – The GARC

Tony Collis VK3JGC

#### New F Calls

Three new young F calls at the GARC reflect the quality of the training provided by the two Peter's VK3ZAV and VK3AJP in the latest round of assessment.



Michael VK3FMIC aged 11.



Ingrid VK3FGRL aged 15.



Ruben VK3FRJS aged 12.



Peter VK3ZAV, on the right, in discussion with retiree Arthur, during his visit to the GARC.

Michael and Ingrid are the children of Lou VK3ALB and Jenny VK3FJEN; Jenny also acquired her F call at the same time as her children.

#### Seniors Week at Geelong

As part of the 50 year anniversary celebration of Geelong, the GARC had a well received open door session at the club house focussed on those of the more mature years looking for a hobby that is both challenging and rewarding. The club house was manned by some six club members from 10 am to 4 pm and had 20 visitors, several of whom propose to join the club and attend training sessions.

#### Optical Communications

David VK3QM, whose exploits in the microwave arena are well documented, gave a presentation on the use of Optical Communications, in the form of a comprehensive, professional, PowerPoint presentation encompassing actual QSOs.

This was followed by a practical demonstration outside the club house, in the late evening, by transmitting voice modulated light, bouncing it off local power lines and trees to be received by a nearby optical receiver.

Some of the many issues covered by David, that experimenters in this field face are:

- The scintillation experienced on audio contacts due to thermal layers

interfering with the communication path as well as intermittent light sources, general light pollution and airborne dust. In atmospheric transmission, coherent light beams can be far less capable of carrying recoverable modulation than an equivalent beam from a non-coherent source. Atmospheric phase and amplitude noise mostly renders heterodyne detection via a local laser oscillator impossible.

- The narrow bandwidth is primarily limited to audio communications.
- Limited line of site path opportunities within Australia; although there is still the potential from Mt Baw Baw to Mt Cowley, of some 230 km, and to Mt Bunningyong of 207 km.

#### Some modulated light DX highlights from the VK3QM presentation:

David VK3QM's personal best distance covered to date was the 70 km stretch from the You Yangs to Melbourne.

On 19th February 2005 a 167 km contact was established from Mount Barrow to Mount Wellington in Tasmania. At the Mount Barrow end Joe VK7JG, Phil VK7JJ, Jason VK7ZJA, David VK6YA/7 and Chris Long were present; while at the Mount Wellington end Mike VK7MJ and Justin VK7TW manned the

VK3 continued



David VK3QM provided the lecture on optical communications.

mountaintop station. Communication was a simple audio amplitude modulation of a 1 watt Luxeon LED, in full duplex. This is probably an Australian distance record for optical communication, and it is currently a world record for two-way audio-modulated optical communication using non-coherent light sources. (This information is out of date. On October 3 2007, two groups of amateurs in Utah completed two-way communications over a path of 278.6 km (173.1 miles). Editor.)

By comparison, the currently accepted North American amateur record for two-way amateur laser audio communication using red light at 474 THz is only 92 km, between WA6EJO and K6MEP on 9 June 1991 - approximately half the distance achieved in Tasmania.

Ironically the current all-time record for "optical communications" was by heliograph, using Morse code and sun light; the 'signal' being received by the human eye with no electronics involved.

This record was established by the United States Army Signal Corps, from Uncompaghe Peak, Colorado, to Mount Elfen in Utah over a distance of 535 km in 1896!

**Editor's note:** There are groups actively experimenting with optical communications in the US and Europe, as well as locally (notably in VK7). Much information can be found on the Internet. Try <http://modulatedlight.org/> and join the Optical\_DX group on Yahoo Groups: [www.yahooogroups.com](http://www.yahooogroups.com)

## Eastern & Mountain District Radio Club

### Visit to Yarra Valley

On Tuesday 14th October members of the EMDRC travelled to Yarra Glen to visit the Yarra Valley Amateur Radio Club. Prior to the meeting members met at the Grand Hotel for dinner. 15 members were in attendance including John and Jean Fisher who spent the night at the hotel celebrating their 40th wedding anniversary. All the meals went down a treat without any complaint about service, quantity or quality. There was talk that this should become an annual event.

After dinner we drove around completely lost looking for the scout hall and counting the rabbits. The four passengers in my vehicle who were making comments that I could not find my way out of a paper bag, had to eat their words when I turned into the road leading to the hall.

Roger VK3BKR gave a short presentation on the extendable mast that the club is making and a demonstration of how to attach up to five antennas, and then secure the mast to a vehicle.

Jim VK3AMN followed with an excellent presentation on the foster care and eventual release to the wild of orphaned wombats. Following this he



The EMDRC shack at the Spring Festival-JOTA weekend.

gave a presentation on the radio tracking of owls.

After the presentations, the YVARC awarded their first Life Membership to Gavin Hobbs VK3TLN, and following a promise made some 19 years ago, passed on the club call VK3GH to Gavin.

David VK3DLR

### Whitehorse Festival

Sunday 19th October saw 17 members of the EMDRC attend the Whitehorse Festival. The tent was set up next to the local Scout Group display and the Cubs & Scouts were invited to use the Club's equipment to make contact with other Scouts for JOTA.

Seven Scouts from the 1st 8th East Blackburn Troop, one from the

## Australian made ANTENNAS Setting a new standard COM-AN-TENA

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23 cm 36 ele slot fed yagi all brass	\$249
2 ele delta loop 10/11 metre	\$275
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10/11 beams comp opt 5 ele	\$399
10/11 5/8 vert 4 rad 1/4 wave	\$224
Tri band HB 35 C 10/15/20 m	\$844
3 ele 20 m beam, 4.8 m boom	\$514
3 ele 20 m medium duty boom	\$409
Log periodic 7 ele 13-30, 6, 5 m boom	\$813
NEW 160 m Vertical SUBURBAN	\$355
M B Vert auto switch 10/80 m	\$345
40 m linear loaded 2 ele 6.4 boom	\$574
5 ele 20 mtr beam 40 foot boom	\$995
6 m 8 ele 12 dBd gain	\$408
Top loaded 160 m vert	\$474
10 ele high gain 2 m, 3.9 m boom	\$180
17 ele high gain 70 cm, 3 m boom	\$152
80 m top loaded vert	\$295
NEW 2 m 70 cm combined single feed line Yagi	\$294

### Guyed Masts

21 metres 13 metres

Winch-up and tilt-over aluminium and stainless steel  
three sided construction. Auto brake winches

### Free standing masts 9.5 metres

### New Baluns

1-1 to 16-1 to 3 kW



03 9773 3271

Mob 0419 542 437

## News from...

Nunawading Troop, two from the 1st Tally Ho and six from the Mont Albert Troup made contacts on the VHF and HF radios. Special mention must go to Amanda VK3FAMC who spoke to at least half the Scouts, her operating procedure and friendly voice left the Scouts feeling confident and soon had smiles on their faces, well done.

We have made contact with some of the leaders and believe that in the near future we will be getting together to run a Foundation Course and assist the leaders in presenting the study necessary for the Scouts to achieve a Communication Badge.

Seventeen members attended.

David VK3DLR



David VK3DLR with a young operator



The smile says it all – a young operator enjoying making a contact.

### EMDRC recognizes Ross VK3UB with a "Family Award"

The Eastern & Mountain District Radio Club of Melbourne recently presented Ross Gardner VK3UB with a Family Award in recognition of his contribution to amateur radio. All members of Ross's family are now licensed amateurs and it is one more example of the spirit of amateur radio and the success of the Foundation licence as a launching pad for young amateurs. Joining the ranks of our wonderful hobby is Carolyn VK3FILE, Christopher VK3FUSE, Hayley VK3FFUN and of course the one who started this revolution, Ross VK3UB.

With the success of EMDRC's courses, the number of people going through the process of getting a licence, as well as



Ross VK3UB accepts the family award from Vice President David VK3DLR while Club President Harry VK3KBS looks on.

young people being encouraged by their parents and club members to take up the hobby, the EMDRC is carving a name for itself as a family oriented club.

Congratulations once again to the Gardner family.

Joe VK3FJBC

Christine Taylor VK5CTY

## ALARA

### Christmas and New Year greetings to everyone

May all your Christmas wishes bring you good DX and good propagation. Surely we have reached the bottom of the sunspot cycle and are about to climb out of the hollow!

The committee of ALARA wishes all their members and fellow amateurs "All the Best for the Festive Season".

### The YL International Meet in South Africa

I was lucky enough to be able to attend the 2008 International YL Meet and enjoyed every minute of it. This is only the second YL International I have attended but I was greeted with open arms. There must have been five or six couples in South Africa who had also been in New Zealand in 2000 and all of them welcomed me as if it had been last year or last week we had met instead of eight years ago.

If you ever have the opportunity to go to an International Meet, I recommend you do so. You will meet people who know each other and enjoy being together. Many of the YLs are active on the DX bands and so are well known around the world, but others, like myself, are rarely on HF, but it does not seem to matter. We are all friends.

The Meet in South Africa was unusually long (three weeks) because



ALARA members in South Africa: Back Row L-R: Janet ZS5JAN (honorary), Gwen VK3DYL (with stuffed friend), Christine VK5CTY, Sarla VU2SWS, Eine SM0UQW, Ingrid LA8FOA.

Front Row L-R: Nori 7K3EOP, Walli DJ6US, Chae HL1KDW, Inger OZ7AGR, Evelyn F5RBP, Unni LA6RHA, and Ton JR6XIX.

Missing are Truss VE3MRS and Vee ZS6ZEN (honorary).

it had been planned to allow us to see as much of the country and as many of the exotic animals as possible. Most International Meets are three or four days only, with the visitors joining together to make extended tours of the country, either before or after the actual Meet.

Our Meet started in Johannesburg where we stayed in a Zulu village, and had a couple of nights in a game reserve and visited the Hartebeeshoek Radio Astronomy Observatory

Then we moved to Durban where we

were right in the middle of the city with tours each day to such places as Suweto township and the Apartheid Museum, spent most of a day at the Ushaka Sea World, and, for some YLs "shop till they dropped" in the local malls!

From Durban we flew to Cape Town where we watched the tablecloth rise and fall over Table Mountain, until the last morning of our stay, when the table cloth lifted and the winds dropped enough to allow us to take the cable car to the top. The cable car can only run when the



Kids in Radio (see next page)

Above: Some of the JOTA activity at Hallet Cove.

Right: Jeanne VK5JQ and Jenny VK5FJAY at the radios at Hallet Cove.



## News from...

wind is less than 35 knots because the cable is only anchored top and bottom. Any wind and it is too dangerous! We were lucky.

That day we also went right to the southernmost tip of the Cape, to Cape Point Lighthouse and to the spot labelled Cape of Good Hope. Cape Town was a fitting end to our visit to South Africa as it allowed us to visit several wineries, the Hugenot Museum, to travel by catamaran to Robben Island where Nelson Mandela was held prisoner for 27 years, and to be shown over the Hermanus Magnetic Observatory all within a day's travel distance.

There were 35 YLs and 10 OM's in South Africa. Of the 35 YLs, there were only two VKs, Gwen VK3DYL and myself, Christine VK5CTY, but there were 13 members of ALARA, through sponsorship. The photograph shows most of these YLs – one was missing that particular day. Janet ZS5JAN, one of the two organisers is in the photo as an honorary member. Vee ZS6ZEN, the other one who planned the whole tour and who was also an honorary member for the duration, had to work that day in the office of the SARL.

I hope some VK amateurs were able to contact the Special Event station ZS08YL which operated during the first and last week of the YL International Meet.

Altogether I consider myself fortunate to have met this group of friendly international YLs and to have seen lions and giraffes and many other animals in their own habitats rather than in a zoo while enjoying a culture different to my own. The climate and the 'look of the country' of South Africa is very similar to that of the southern states of Australia. Many of the plants we saw in the wild or in gardens were familiar, too. I recommend it as a place to visit.

Meanwhile back at home we had JOTA, etc

This report was sent to me by Shirley, about her experience this year:

### Kids in Radio

*All was in readiness for the JOTA weekend at the local Seaford Meadows Scout Hall. A hot day was forecast, so cool drinks were a necessity and some*

*cool fresh fruit to see us through the day. There were stations set up for the Scouts/Cubs/Joeys to try their hand at various forms of radio contact where the participant had to liaise with an adult thereby getting a particular section on his/her card 'signed off'.*

*HF on 20 metres was popular and at one stage we had a Japanese station in contact with us. We also had a large map of the world with the various radio prefixes printed on it - lots of fun for the kids to find out where the different call signs came from. Then there was the CW section which was hilarious to watch (we could see them from upstairs) but the kids had lots of fun sitting in kiosks next to each other but not able to see the other group while sending the Morse code ("How do you spell such and such" was a frequent request). Another section was the EchoLink equivalent which was organised by one of the Venturers who kept an eye on the internet connections and advised of the workings. My section was in the IRLP area and I learned heaps from these connections. I have only ever worked IRLP on EchoLink on the computer, so this was a bit of a learning curve for me as well. I think the children are slowly learning that you do not use the microphone as an earpiece as well when it comes to amateur radio. One youngster who was very keen to work for his licence had me talking to his Mum to convince her that he could do it. Such enthusiasm - I hope it helps him forward. Shirley VK5JSH.*

Jenny VK5FJAY sent me this report of JOTA at Hallett Cove Scout Centre. Jenny, in the long run, was not able to be there as she had a call in to work at the last minute, but we thought the report was worthwhile anyway. There were Cubs, Scouts and Joeys there on the day and they showed quite a bit of interest in amateur radio.

HF, VHF and UHF bands were all covered and some good contacts were made. For those not using the radios there was JOTI, (on the internet) operating in a second room so there was plenty to do.

This same group of Scouts participated in a foxhunt on radio a couple of weeks earlier which they thoroughly enjoyed, as well. The scouts in VK5 have quite

a range of radios on the frequencies they use for their activities so there are handhelds available for such things as foxhunts. It is not strictly JOTA but it is radio, and, as we know every little helps to catch the interest of the young people.

The Scout Radio Group (SRAG) ran a Canoe Challenge for kids participating for their Duke of Edinburgh Award, recently. The activity was on the River Murray, at Roonka, the Scout campsite.

About 50 single or double canoeists participated with the communications van being manned by amateurs. Jeanne VK5JQ and her OM Keith VK5OQ with Jenny VK5FJAY, and her OM Kevin VK5AKZ, along with several other Scout amateurs were busy setting up on Saturday 25th and then operating all day on Sunday 26th October.

A 16 metre (50 ft) pump-up tower was used, sited on top of a hill with the communications running for the Scout radio caravan. Everything worked well so that all the paddlers completed the course and got back to shore in time for a BBQ lunch and presentation.

Keith and Jeanne towed the caravan home while Kevin and Jenny towed the mast and its equipment. It was quite a large operation but every one enjoyed themselves while demonstrating the usefulness of amateur radio once again.

### Advance notice for an event in early January 2010

This message was sent from Norma VK2YL, the first President of ALARA, who is deeply involved in preparations to celebrate the Centenary of Guiding in 2010.

*The VK3 Girl Guides are invited to participate in a special event station at Yarra Junction early in 2010. Please watch the GG Newsletters for more information.*

There may be other groups to tell you about later.

If you want to see your experiences reported, please send me your story!!

Season's greetings, see you in the New Year.

ar



**QTC**  
First Published July 1972 "Of, By and For the Amateur"  
NEWS FROM THE QUEENSLAND RADIO AMATEURS

**VK4**

Christopher Comollatt VK4VKR

**Mackay Amateur Radio Association** is now having their monthly meetings at the SES building at the Mackay Regional Council Depot at Ness Street, West Mackay. The meetings are held on the second Tuesday of the month at 7.30pm.

**Gympie** is growing. The **Gympie Communications and Electronics Group Incorporated**, has been formed with an enthusiastic group of members in an area that has not been able to support a viable group for some years. The Gympie group has been well supported

Hello and welcome to December from VK4, another busy (and warm) month, with a lot of articles for submission, so a big high wattage cheer to those who are sending articles in. Please do not despair if you do not see it in this month's issue of AR magazine as it will be submitted in the following months. I have only provision for a page or two so a little of SWR (Slicing Written Responses) has to occur.

## And now around VK4

The **Bundaberg Amateur Radio Club** repeater has turned 30, so happy birthday to you BARC. The repeater shack on

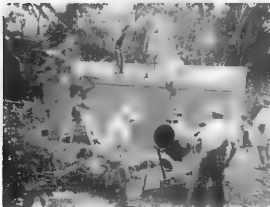
Mount Goonaneman (near Biggenden QLD) was built and has been operated by BARC since 1978 with a massive feat of endurance between 1976 and 1978 as members trudged up the mountain carrying buckets of sand, bags of cement as well as wheel barrow loads of concrete blocks. With endless working bees and pouring a slab by man-powered mixer the repeater shack was taking shape. The official opening was performed by the local member, P.C. 'Clarry' Millar on 29th October 1978 and today the club still operates VK4RBU, 2 m repeater link on 146.800 and 70 cm repeater link on 438.775 from this site. Most of the founding members are gone now, but with much pride and respect the club published a "Happy Birthday" webpage at [www.barc.asn.au/oct78.html](http://www.barc.asn.au/oct78.html) in honour of the men and women who made it all happen. Well done chaps an excellent repeater site to be enjoyed by the current locals and those who may pass through for the next 30 years plus.



Carrying sand up to the repeater site.

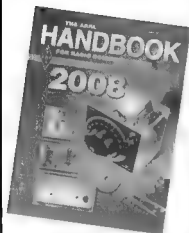


Above and below: 1976 Laying of the blocks for the Mt Goonaneman Repeater shack.



Official Opening, October 1978. Shack painted, tower up, and partying.

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## News from...

by the Sunshine Coast Amateur Radio Club and the Maryborough Electronics and Radio Club. The weekly Gympie Net which was maintained by Len VK4JZ on behalf of SCARC for the past couple of years has been continued by GCEG Net Controller Dawn VK4FTBA with call-ins each Monday averaging 10 to 12 stations. After achieving incorporation, the presidents of the 3 neighbouring area radio clubs made a point of joining the net to offer congratulations. Many thanks to Harvey Bay, Sunshine Coast and Maryborough for their gesture. On Sunday 12th October, some of the Gympie members arranged an informal BBQ. A group of volunteers manned the BBQ outside the local Melco Mitre 10 Hardware Store for their first public fund raising venture with about 1 kg of sausages being sizzled, sold and devoured by the hungry public. Barry VK4KKN the treasurer was last seen with a large bag of money from the BBQ beer lining for the local bank.

Currently GCEG is trialling a club newsletter in PDF format which is available upon request. The thinking caps are well and truly on the heads as members look to growing the group and developing projects and activities.

Contact details for GCEG can be found at [www.wia.org.au](http://www.wia.org.au) under clubs or in the group's own web site [www.gceginz.org.au](http://www.gceginz.org.au)

December in Townsville seems to be where the action is with TARC Management meeting Tuesday 2nd Dec from 7.30 pm SES HQ Westend.

NAVCOM Mini hamvention 1.00 pm to 6.00 pm Saturday 6th December (contact Navcom for further details).

TARC project night Tuesday 9th December from 7.30 pm SES HQ West End.

TARC Christmas Party - VK4TJS QTH Sunday 14th December from 2 pm.

TARC Social Meeting Tuesday 16th Dec from 7.30 pm SES HQ West End.

WICEN Queensland holds a net every Sunday on 7075 kHz from 8.30 am (2230

UTC). The net calls in regular stations and then invites new stations to call in. Mix it with other WICEN operators and call in on the net.

## Regional VK4 HF Nets

Monday Evening	Mackay Club Net - VK4WIM Net Control	3597 kHz from 0930 Z
Tuesday Evening	RADAR Net - VK4WIR Net Control	3613 kHz from 0930 Z
Wednesday Evening	Gold Coast Net - VK4WIG Net Control	3605 kHz from 0930 Z
Thursday Evening	Henry Fulford Memorial Net - VK4WAT Net Control	3588 kHz from 0930 Z
Thursday Evening	Sunshine Coast Net - VK4WIS Net Control	3660 kHz from 0930 Z
Thursday Evening	Hervey Bay Net - VK4CHB Net Control	3615 kHz from 0730 Z
Friday Evening	Central Highlands Club Net - VK4WCH Net Control	3618 kHz from 1000 Z
Friday Evening	Lockyer Valley Club Net - VK4WIL Net Control	3570 kHz from 0930 Z
Saturday Evening	Darling Downs Net - VK4WID Net Control	3587 kHz from 0930 Z
Sunday Morning	WICEN QLD Net - VK4IQ Net Control	7075 kHz from 2230 Z
Sunday Evening	North Queensland Net - VK4WIT Net Control	3605.4 kHz from 0930 Z
Sunday Evening	Dalby and Districts Net - VK4??? Net Control	3585 kHz from 1000 Z

And many thanks to all those who donated their time and equipment to JOTA/JOTI weekend, contacts were made within Australia and Worldwide via HF and IRLP - a good weekend enjoyed by all. With too many contacted clubs and call signs to be posted, this is a thank you to all. May next year be bigger and better.

Until next time Cheers and 73

**VK4VKR**



## VK5

### Adelaide Hills Amateur Radio Society

The October meeting was a presentation by Kim Hawtin VK5FNET and Karl Goetz VK5FOSS on Airstream. Airstream is a group of computer enthusiasts who have set up a Wireless data network across the Adelaide metropolitan area. Some outstanding distances have been achieved with off the shelf Wi-Fi equipment. There is no connection to the Internet, it is used for file exchange, gaming, VOIP and video communication.

November 9th saw the club move to

a new venue for our annual buy and sell day. There were 50 tables occupied by second hand and commercial sellers and club display tables. ALARA and the North East Radio Club provided food and drink for all. Icom launched their D-STAR repeater in Adelaide. A project successfully conducted by AREG.

Paul VK5FPAU won the HF mobile antenna donated by Bushcomm, Paul VK5SPH won a 23 cm grid pack antenna donated by Radio Specialists, Yaesu Vertex presented Geoff VK3ACZ with

an FT7800 and David Clegg won an Icom R5 scanner donated by Icom.

The event was a great success and the hall has been booked again for 2009.

The club end of year dinner will be held at the Mt Osmond Golf Club on Sunday December 7th.

Seasons greetings from the committee and members of the Adelaide Hills Amateur Radio Society.

73 David VK5KC

David Clegg VK5KC

### South Australian RAOTC Annual Lunch

South Australian Radio Amateur Old Timers enjoyed their annual lunch at the Marion Hotel on 23 October last.

Thirty amateurs attended with the most senior being Darcy Hancock VK5RJ at 97 years, with Ray Deane VK5RK and Frank Holsten VK5LK both 91.

Darcy, who was one of the mainstays of the Northern Net, a gathering on 40 metres on Sundays in the good old days, spoke of a time at school when a teacher forbade the tinkering with a six volt accumulator in the fear of students being electrocuted.

Henry VK5CL brought along some of his collection of working WW2

radios which he spoke about with great enthusiasm.

With a somewhat younger group from the Adelaide Hills Radio Club also in attendance, Christine Taylor VK5CTY gave a very well received talk about her visit to Africa while passing around an album of photographs.



Pictured are Lloyd Butler VK5BR, a youngish 84, and Darcy VK5RJ enjoying a rag chew at the lunch.

Ian Sutcliffe VK5IS

## VK7

### WSPR World Record Set

On Friday 31 October, Bob VK7KRW in New Norfolk, Tasmania, had a two way contact with Richard, N2JR, in Virginia, USA, on the 80 m band over a distance of 16300 km running two watts. Later that evening Bob received an email from Pat F6IRF, who runs the WSPR net, confirming that they had set a new world distance record for a two way QRP contact on the 80 m band. WSPR stands for Weak Signal Propagation Reporter and is the brain child of Joe

Taylor K1JT who is also the developer of the weak signal application WSJT. For more information take a look at <http://wspnrt.org/> Congratulations to Bob and Richard.

### DX from the South

Listen out for Bob VK2ABP who is now VK0BP and at Davis Base, Antarctica. Also listen for Tad VK2LNX/7 and Suzanne VK2FSNJ/7 who are QRV for another five months on Maatsuyker Island, IOTA OC-233. Roger VK7ARN holds regular nets on a Thursday night

at 1930 local on 3.59 MHz and all are welcome to join in.

### JOTA in VK7

There were at least eight JOTA stations operating around VK7 over the weekend of October 18-19. In the North on Scout Island, Launceston, thanks go to Tony VK7YBG, Ann VK7FYBG, Tabitha, Peter VK7KPC, Bill VK7MX, Neil VK7NT, Phil VK7JJ, Lynn VK7FLYN and crew. There was a station at Paton Park in the North West thanks to Bob VK7MGW and Lucas VK7FLSB.

Justin Giles-Clark VK7TW

Email. [vk7tw@wia.org.au](mailto:vk7tw@wia.org.au)

Regional Web Site: [reast.aen.au](http://reast.aen.au)

## News from...



Some of the Brighton Girl Guides operating at JOTA 2008  
(Photo: VK7NML).



Garry VK7JGD showing a length of kinky coax to Chris VK7FCDW, Steve VK7FAME and Andrew VK7AD.

There was Ray VK7VKV, Scout son Ben VK7FGBS and Brian VK7BDW camping at Hamilton with the New Norfolk Scouts. There was Gavin VK7HGO operating VK7SAA up at The Lea Scout Camp hosting a number of groups. Thomas VK7NML was out with the Brighton Girl Guides. Scott VK7FREK and crew operating VK7GGA at Snug with the Channel Girl Guides and Danny VK7HDM with help from Mark, VK7FMAC, Graham, VK7ZGK and Noel out at the Glenorchy Scout Hall Camp-Out. From all reports it was a fun weekend and a wonderful demonstration of this great hobby of ours.

### North West

The North West amateur radio social club activities are gaining in popularity. There are regular coffee mornings at The Blue Wren Tea Gardens on a Saturday morning and all are welcome, especially YLs and XYLs. The gardens are on the scenic coast road just west of Ulverstone. The 2 m social net is also proving popular on VK7RMD (146.625) at 2000 local time on a Tuesday night and again all are welcome.

### Northern Tasmania Amateur Radio Club

By the time you read this the Christmas BBQ on December 10 at Myrtle Park will almost be underway. There will be keen competition for the informal 'Slippery Trout' award, so do not forget your rods. This illustrious award is

bestowed on the person who catches the first fish and there is even camping at the site. All are welcome.

### WICEN South

The first of a range of practical sessions was held on 8 November at the QTH of Brian VK7BW with help from Gary VK7JGD and focused on the selection and fitting of coax connectors. The second on these workshops is on power connectors and emergency power supplies and will be at VK7ARN's QTH on Saturday 13 December and the third session is 24 January 2009 and will be run by Andrew VK7AD on soldering skills. These workshops have been fondly called WUDNTPARCEABUS ("wouldn't pass a bus") or "What You Don't Need To Pass the Amateur Radio Certificate Exam But You Should". Visitors are always welcome, subject to venue constraints and prior notification via an email to [secretary@tas.wicen.org.au](mailto:secretary@tas.wicen.org.au)

### Radio and Electronics Association of Southern Tasmania

The Saturday afternoon group has held a series of tours of the airport with a focus on aviation communications. These included a tour of the Rotorlift facility, the Bureau of Meteorology facility with an actual release of a weather balloon, the fire fighting and Marine Rescue sections and even a talk from an Air Traffic Controller. Thanks to Tony VK7FTCL

for organising these great tours. Thanks also to Ken VK7DY and Ian VK7ZIF for realigning the ATV satellite dish and LNB to receive NASATV. This great free-to-air transmission shows a range of video and audio feeds straight from the satellite and this feed can be switched through to air on ATV. Many SSTV pictures were received in VK7 from the ISS whilst Richard Garriott WSKWO was on board.



SSTV image from the ISS by VK7TW in Hobart.

REAST on 12 November also toured the Heart 107.3 FM radio station with technician Chris Morrison and Brett Marley VK7FMMM and thanks to Chris and Brett for organising the tour. At the time of writing this column, six potential Foundation Licence holders were taking their assessments. Hopefully there will be good news and six new callsigns to report in the next AR edition. All in all a full month of AR activities in VK7!

## October space station madness!

During the month of October and into early November, the amateur radio community were treated to a flurry of activity originating from the International Space Station (ISS) or Space Station Alpha. The ISS was active in a number of modes including direct voice contacts with Richard Garriott, SSTV images also being transmitted by Garriott, the activation of the FM cross-band repeater, and the ISS regular packet service.

As expected, the activity originating from the space station encouraged many operators to dust off their rigs and to direct their Yagis skyward. The activity was also a stimulus to many operators who have never attempted to work in the satellite mode prior to this easy-to-hear activity. It was great to hear some VK7s on the cross-band repeater, as there are no Tasmanian operators currently working satellites on a regular basis.

The appearance of these VK7 stations on the ISS repeater allowed a number of AMSAT-VK members to finally obtain their "Worked All States" award.

While there was a lot of frantic activity, the scheduled ISS amateur radio operations were completed very successfully, going off without a hitch. For many Australian operators, this bout of ISS activity was the first opportunity to work a manned spacecraft in about two years.

For most amateurs, the highlight of these activities was the near constant stream of SSTV pictures being sent to Earth on almost every pass of the space station. The SSTV frames were sent using "Robot 36" encoding. The content of these SSTV pictures included photos taken on board ISS of the crew and the spacecraft itself, shots of Richard, his family and friends, and also some light-hearted silly stuff as well.

Members of AMSAT-VK and other amateur operators captured over 30 different images during Mr Garriott's stay with the ISS. These pictures are available for viewing and downloading on the AMSAT-VK group and many other world wide web sites.

I was very pleased that many members of AMSAT-VK were able to log direct contacts with Mr Garriott. Many of these contacts were made using hand-held rigs and vertical antennas, once again illustrating that you do not have to spend a small fortune in order to work satellites!

### ARISS school contacts

Shortly after Richard Garriott's activities had concluded and after he had returned safely back to Earth, two Australian schools participated in the Amateur Radio on board the International Space Station (ARISS) schools contact program.

The first of these schools to make contact with the ISS was St. Thomas' Primary School in Brisbane, Qld. This school contact received national

television coverage on the Ten network and a news story was published in the Brisbane Times newspaper. Congratulations to Morry VK4HBK who originally joined AMSAT-VK in order to familiarise himself with satellite communications with a view to getting his daughter's school interested in amateur satellite operations and ISS after reading about the ARISS program in an astronomy magazine.

The school has been actively monitoring AO-51 when possible, tracking and receiving the WX birds (weather satellites), and now have an ARISS contact under their belts. We are looking forward to the school's continued interest in satellite communications.

A second Australian school also had a scheduled ARISS contact a few days later. Twenty students from Anderson's Creek Primary School, Vic., also had the opportunity to ask questions of Mike Fincke, the current commander of the International Space Station. This contact also received coverage in Victorian newspapers.

The Anderson's Creek contact was conducted via telebridge, which connected the school to the ISS via Tony Hutchison VKSZAI and his earth station located in Kingston, S.A.

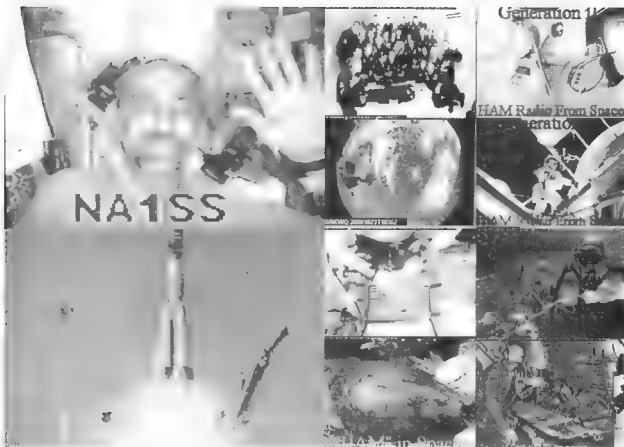
The ARISS program is a wonderful opportunity for schools to give their students hands-on experience with space based communications. It is also a great way to introduce young people to amateur radio.



Students from St. Thomas' Primary School in Brisbane, Qld. display their ARISS certificates.



A student from Anderson's Creek Primary School in Victoria speaks to the space station.



If you are a teacher or know of a school who would like to get involved with working the ISS or amateur satellites in general, get in touch with me, and I can point you in the right direction. ARISS school contacts do take some time to organise – 18 months or so. ARISS activities are coordinated in Australia by Tony VK5ZAI.

## AMSAT at 2009 Wyong Field Day

Next year, AMSAT-VK will be running a stand/table at the annual Wyong amateur radio field day.

Judy VK2TJU and I will attend the stall, with Geoff VK2ZAZ running a satellite contact demonstration.

More details will appear on the AMSAT-VK group site in the next month or so.

VK2TXT

## Gamer in space

The latest round of ISS activity began with the long anticipated arrival of Richard Garriott at Space Station Alpha, who is believed to have paid \$US30 million for his training, transport and accommodation.

If you are interested, these trips to the space station are organised by a company called Space Adventures – <http://www.spaceadventures.com>

Within hours of entering the ISS, Richard W5KWQ could be heard calling CQ and began transmitting SSTV images to amateur radio operators back on Earth.

Richard Garriott was born on the 4th July 1961 in England and was raised in the state of Texas, USA. He is the son of Owen Garriott, who was also an astronaut who spent some time aboard the ill-fated Skylab space station, in addition to flying a mission on a NASA Space Shuttle.

Richard Garriott is the first second-generation American astronaut in

space. Coincidentally, Sergei Volkov, who was also on board the space station on Garriott's arrival was the first second-generation Russian cosmonaut in space.

Garriott is best known for his very successful career in the computer and video games industry, having created one of the world's most popular early computer game series called "Ultima". Mr Garriott first developed Ultima for the Apple II platform, and went on to release the programs for other systems including the IBM PC, Commodore, and Atari microcomputers.

Being pretty much a self taught programmer, Garriott's initial release of the first Ultima game was a very low key affair, being packaged in a simple clear plastic bag through a company called California Pacific Computers. The game quickly gained popularity and the second instalment was published by the well known Sierra On-line, who published titles such as 'Space Quest' and 'Leisure Suit Larry'.

## Silent keys

By the third instalment, the game series had become so popular that Garriott and his family started their own game company called Origin Systems. The company was sold to EA (Electronic Arts) in 1992, which retained the Origin branding.

Origin was to become a market leader with the release of Ultima-Online, the first truly highly successful MMORPG (Massively Multiplayer Online Role Playing Game). Richard Garriott left Origin/EA Games in 2000. After a year or so, once Garriott's contractual agreements had ended with EA, together with his brother and others, he formed his latest computer games company known as NC Interactive.

NC Interactive is the publisher of such titles as Lineage II, City of Heroes, City of Villains and Tabula Rasa, all of whose titles fall into the MMORPG game genre. Interestingly, shortly after Garriott's return from space, he resigned from NC to pursue "other interests".

To read more about Richard Garriott's trip to the ISS, and for access to photos, videos and sound bites, see <http://www.richardinspace.com>

ar

### Bob Jordan VK7JR

It is with great sadness that I inform you of the passing of Bob Jordan VK7JR, the voice of King Island on Thursday 16 October 2008. He was 79 years of age.

Bob was one of six children and brother of Jack VK7IL and Laurie VK2ALV.

Bob has been blind for the last 25 years following a scallop boat accident that robbed him of his sight, although you would never know talking to him on the air.

Bob was a regular on HF and the call-backs after the broadcast.

He will be sadly missed on the air and our condolences go to Jack and his wife Elva and family.

Vale Bob.

submitted by Justin VK7TW

### John F Ryan VK2FO

The Mid South Coast Amateur Radio Club Inc. (MSCARC) regrettably must advise that our member John F Ryan VK2FO, of Bawley Point, joined the ranks of Silent Keys on 7th August 2008.

John's real introduction to radio was

in 1953, when he became Apprentice of the Year for Victoria, at the RAAF Radio School. He went on to become a career officer in the RAAF.

John gained his first call, VK3ZBR, while living in Sale, Victoria, in 1957. The early 1960s saw him at the famous Point Cook, when he upgraded to a 'full' call. Moving to Canberra, he became the Deputy Director of the Busby Science Centre, and his call became VK1AK. During this time he carried out various projects for the Royal Australian Navy and was Director of the Lantac program. John negotiated the first weather satellite for Australia and was in charge of all of Australia's weather radar stations. These duties took him to Macquarie Island in 1967.

Upon retirement he moved to Bawley Point, on the south coast of NSW, where his call became VK2FO. John's other hobbies were fishing and sailing but he always maintained his interest in amateur radio, although failing health restricted his operation over the last few years.

Vale John Ryan, VK2FO.

Submitted by Stephen Arnold VK2SJA  
Secretary MSCARC.

## AMSAT - Australia

**National Co-ordinator:**  
Paul Paradigm VK2TXT,  
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**Secretary:**  
Judy Williams VK2TJU,  
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**Website:** [www.amsat-vk.org](http://www.amsat-vk.org)

### About AMSAT-Australia

AMSAT-Australia is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.

AMSAT-Australia is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

### AMSAT-Australia monthly nets

#### Australian National Satellite net

The net takes place on the 2nd Tuesday of each month at 10.30 pm eastern time, that is 9.30 Z or 10.30 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

#### In New South Wales

VK2RMP Maddens Plains repeater on 146.850 MHz  
VK2RIS Saddleback repeater on 146.975 MHz  
VK2RBT Mt Boyne Repeater on 146.675 MHz

#### In Victoria

VK3RTL Laverton, Melbourne, 438.600 MHz FM, - 5 MHz offset  
Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED

conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email.

### AMSAT-Australia HF net

Members and interested parties are also reminded of our HF net which is held on the 2nd Sunday of each month. See [www.amsat-vk.org](http://www.amsat-vk.org) for details.

### Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night.

Should you wish to join AMSAT-Australia, details are available on the web site. Membership is free and you will be made very welcome.

# Contests

Phil Smeaton VK4BAA

## Contest Calendar December – February 2009

<b>Dec</b>	5/7	ARRL 160 m Contest	CW
	6	RTTY Melee	RTTY
	13/14	ARRL 10 Metre Contest	CW/SSB
	20	OK DX RTTY Contest	RTTY
	27/28	Stew Perry Top Band Distance Challenge	CW
<b>Jan</b>	1 to 31	Ross Hull Memorial VHF-UHF Contest	CW/SSB/FM
	3/4	ARRL RTTY Roundup	RTTY
	17/18	Summer VHF/UHF Field Day	CW/SSB/FM
	24/25	BARTG RTTY Sprint	RTTY
	24/25	REF Contest	CW
	24/25	UBA DX Contest	SSB
	24/25	CQWW 160 M CONTEST	CW
<b>Feb</b>	14/15	CQWW RTTY WPX	RTTY
	21/22	ARRL INTERNATIONAL DX CONTEST	CW
	21/22	REF Contest	SSB
	21/22	UBA DX Contest	CW
	21/22	CQWW 160 M CONTEST	SSB

**Season's felicitations to one and all!**

### Welcome to a Yuletide Contest Column!

At the time of writing, the SSB leg of the CQWW group of contests has only just come to a close. So with call signs and zones still ringing in my ears from the recent onslaught, thoughts turn to how things went during the contest.

#### CQWW SSB 2008

For me at least, the contest was really a proving ground to see how the tweaked antenna system performed since the original system was installed just before the Oceania contests. I operated as a single operator single band entry on 80 m and Trent VK4TI took the controls on my ad-hoc 40 m station. Photo 1 shows Trent enjoying his own company during the contest – or he might be laughing at the 'rate' indicator on my PC. I am not sure what he thought he was doing with the pen he was holding – it remains a mystery.

The bands were in a strange mood that weekend, with reports from around VK after the contest ranging from "awful" to "bizarre".



Trent VK4TI during CQWW SSB Photo: VK4BAA.

The contest was somewhat marred by equipment failures and much lost time on 80 m resulted. Trent thundered along on 40 m without a hiccup – until Trent needed to scamper home well before the end of the contest.

So, with my shack co-occupier having been called away, I continued on 80 m all alone in the shack. I got a little nervous

around 2 am, as I could smell burning. I do not smoke and I had not had a really hot curry, so I was a bit puzzled. There had been some burning-off of scrub going on during the day, but the smell was now getting stronger. I opened the door on the shack timidly with a trembling hand (even more than usual), expecting to see a wall of flame licking

the coax, and took a quick look outside round the side of the door. There was a dog standing there with a stick in its mouth - smoke pouring off either end of the stick and the asbestos-mouthed mutt seemingly oblivious to the heat. I had startled him (but not as much as he had startled me!) and away he ran. He did not leave a trail of fire behind him as he ran down the hill, but I thought that I might have to get a bucket of water to dampen down some hot spots from any dropped cinders! I also needed a visit to the toilet after a scare like that....

Back in the shack and I was trying to get a space on 80 m for a CQing session after a period of S&P. It was not long before the contest police were in evidence yet again, with a ZL apparently chastising me for calling CQ but not replying to responders. Despite having some facts explained to him (in the nicest possible way of course), he could not grasp the fact that some people have more than just one receive antenna and might not be listening in the direction of the responder. While he continued his diatribe, I worked the stateside station to which he referred, logged him, switched back to listening to EU and carried on having fun. The ZL chap soon got bored and QSY'd away to find someone else to harangue. Maybe he had just found a fly to pull the legs off, just to keep himself amused....

Propagation in Europe was a bit hit and miss from VK4 on 80 m, with either a strong opening enabling a reasonable 'run' or the EU stations just CQ'ed away to their hearts content but seemingly refused to answer calls from VK. It is very frustrating when this happens, but the noise level in EU is extremely high so it is somewhat understandable at times. The only way to get through to EU under these circumstances seems to be a large tower and a three element beam - not really a prospect for me in this lifetime. Working some mates in the UK was good on 80 m, as was being called by an English mate in Jamaica who had gone abroad for the contest to the 6Y1V super station.

As is the usual way in this contest, lots of DX was available to bolster your DXCC count if you wanted to. If you are fortunate to have a tower and beam, then you might be able to get them into your log at any time during the contest, but for smaller stations with less elaborate antenna systems, calling that juicy DX station towards the end of the contest is probably going to reap rewards as they will have been sitting at the rig for several hours, tuning to find the last few stations not yet in their log, so they will be a bit more patient to work the quieter signals.

Finding room on the bands was sometimes difficult and some folks (not VK) resorted to creeping into territory hitherto designated for modes other than SSB. They were soon detected by the self appointed contest police however and chastised remorselessly. The band plans are not a legislative requirement but are in place for the overall betterment of radio spectrum users. The more worrying aspect is the chosen format of chastisement, initially with DX clusters being utilised for public chastisement in the most vociferous and acidic manner and then a follow-up email using language that would make the lower lip tremble on the toughest of souls. Looking on the Net at the DX cluster records, a number of VK hams are guilty of this tirade and whilst their original stance may be considered by some to be admirable, the methodology leaves a lot to be desired, in my humble opinion and does not portray VK radio amateurs in the best of lights on the world stage.

VKCC members reported having a great time on the bands, with VK6ANC, VK1CC and VK4WIL club calls getting a good airing. No sign of Westlake Club callsign VK2ATZ however - maybe they were getting ready for the CW leg of the contest.

Other VKCC members reported fierce competition on the HF bands. There were even a few reasonable openings on 10 and 15 metres providing a good selection of DX too, so there are always sources of multipliers available if you are prepared (and able) to shift bands for a short while to mop them up. SO2R operators grab them while they CQ on another band of course.

With the contest over for me at least, at around 7 am (as 80 m dried away gracefully), a small glass of something splendid rounded off a superb weekend. If you were not on the bands, then you missed an excellent weekend of fun.

## IOTA Contest - Provisional Results for 2008

Congratulations to the following stations:

Callsign	Category	Provisional Score
VK4BUI	Fixed Station, Single Operator, Mixed Mode 24H, High Power	47277
KL7/VK2IMM	DXPedition, Single Operator, CW, 12H, Low Power	45240
VK2CCC	Fixed Station, Single Operator, CW, 12H Low Power	29808
VK2GR	Fixed Station, Single Operator, CW, 12H, High Power	8400
VK7GN	Fixed Station, Single Operator, CW, 12H, High Power	1869

IOTA does not seem to be particularly popular from VK for some reason. I have not worked out exactly why as such - is it our geographical location that makes us shy away from this one?

## CQWW RTTY VK Claimed Scores

Callsign	Category	Band	Score
VK2XF	Single Operator, Low Power	40 m	2968
VK3TDX	Single Operator, High Power	All	216000
VK5NPR	Single Operator, High Power	All	181796
VK6HZ	Single Operator, High Power	All	46216
VK7AD	Single Operator, Low Power	All	11718
VK7GN	Single Operator, High Power	All	76139

## JIDX CW 2008 Results

Congratulations to the following stations:

Callsign	Band	Score
VK4TT	All	8694
VK2GR	15 m	700
VK8AV	40 m	504
VK1ANU	40 m	72

## 2008 Round-Up - much the same as 2007!

The last 12 months have been another interesting time for contesting. Aside from being my second anniversary as your humble scribe in November, 2008 has also been memorable as the beginning of some excellent growth in participation of VK stations in international contests.

Club contesting has increased generally, although one notable group appear to have gone a little bit quiet in recent times.

*continued next page*

# Spotlight on SWLing

Robin Harwood VK7RH

## 2008 sees the decline of SW broadcasting

This year has seen the rapid decline of international broadcasting, particularly over shortwave. Program makers have gravitated to other platforms, such as the Internet or via relays over domestic FM outlets, because the shortwave audience has shrunk dramatically, especially in Europe, the Americas, Australasia and significantly in Asia.

Less than 5% of Africa has Internet access and the domestic broadcasting infrastructure there is poor, particularly in the central and eastern areas of this vast continent. A nasty civil war has been raging in the Congo ever since that former Belgian colony gained their independence and this conflict has spilled over into adjoining countries, such as the two tiny nations of Rwanda and Burundi plus Uganda. This ongoing war is ethnically based and millions of people have died.

Other African nations have also been plunged into long term conflict, such as in Sierra Leone, Liberia, Cote d'Ivoire and Nigeria. The eastern region of Africa has also seen a nation disintegrate into lawlessness and anarchy. This is Somalia and no effective central

government has been able to assert its authority, with several provinces or regions declaring independence. This has caused further fragmentation and division with the inevitable result of daily internal conflict. Some coastal regions of Somalia are surviving on high seas piracy. Any vessel going anywhere near the Horn of Africa is likely to be seized by heavily armed gunmen on small boats and held for ransom in multi-million dollars. This got to a head after a vessel carrying armed munitions including tanks and automatic weapons was seized by these pirates. The result was the international community reacted immediately by dispatching warships to the region and surrounded the pirates. Yes these pirates are reported to use HF gear, often ham gear, to communicate with their hideouts within Somalia.

This is why Africa will continue to rely on shortwave radio broadcasts for some time. Sadly the developed world no longer depends on HF for broadcasting because technology has given reliable platforms such as the Internet and the pod cast to deliver their programming

and information. Africa still lacks the infrastructure to catch up.

Therefore it is significant that America has elected Barack Obama to be the 44th President of the United States of America. He has family in Kenya and is acquainted with the problems within the region. The election will also mean there will be changes within the Public Diplomacy areas of the Administration, particularly within the International Broadcasting Bureau, which oversees the VOA and the clandestines such as Radio Liberty/Free Asia plus Radio Farda and Radio Sawa. All of them have been on shortwave, but under the Bush administration these were severely cutback with the exception of the clandestine operations. The Obama administration officially does not assume office until January 20th 2009 and any possible changes may not happen until after they have settled into office.

Well that is all for 2008. May I wish you the Season's Greetings and hope that 2009 will be more stable and peaceful that 2008 has been.

Robin L. Harwood VK7RH

## Contests

*continued from previous page*

Both domestic and international activity for club entries is still on the increase however and I am sure that the relevant contest managers will summarise better than I on VHF contesting, with VK calls during RD, Field Days, John Moyle and the like being well supported. F calls are no exception to this, with many taking part in contests during 2008 and some making plans to upgrade their licences to enable themselves to compete a little bit more. It would be good to see some domestic contests include an 'F' call section in the future, but time will tell.

The Oceania Contest and the Commonwealth Contest (aka BERU) continue to put VK on the world stage, allowing VK to be a focus of the world for a while. Steve Ireland is still looking to enter a VK Team for BERU and I hope to be trying to get a team placement

in 2010 by taking part in 2009 and gaining a reasonable score. I have some tough competition to dislodge someone from the team list, but we will see how it goes!

I said as much last year and it is still my humble opinion (and others are welcome to disagree!) that contesting in VK is coming along nicely: it is still vibrant and healthy; it continues to attract increasing domestic and international participation and continues to enhance the VK profile globally. The introduction of Skimmer might have a detrimental or positive effect depending on your point of view – and Club / Team contesting continues to grow.

I hope that you have a wonderful Christmas and a very Happy New Year. Maybe start the New Year off with

participating in the Ross Hull Memorial VHF Contest and take it from there into 2009. May you multiply often and produce a huge log!

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via vk4baa@wia.org.au. See you on the bands.

73 de VK4BAA Phil Smeaton

## Contest rules:

**Ross Hull Contest:**

**Page 58**

**Summer VHF-UHF Field Day:**

**Page 60**



## Weak Signal

David Smith - VK3HZ

Despite the approach of summer and (hopefully) good times for VHF/UHF propagation, not much has been happening on the bands to date. However, there has been at least one event of interest.

On the morning of 20th October, Leigh VK2KRR at The Rock was scanning the bands checking for conditions. Signals from VK5 were up significantly from normal levels, and at 1930 Z, he reported hearing the VK6REP 2 m beacon at Esperance at S1 – a distance of 2312 km. Terry VK3ATS in Mildura was also hearing the beacon at S5 – a leisurely 1870 km. However, nothing was being heard in Melbourne so it seems the enhancement was not reaching that far south. Brian VK5BC reported hearing the beacon up to S7, but nothing from Albany, slightly further afield, on 2 m or 70 cm. Unfortunately, VK6 had not at that stage gone onto Daylight Saving time, so their local time was very early (2.30 am). At 2300 Z, with the beacon still just audible, Leigh rang Bill VK6AS in Esperance to see if he could come on air but unfortunately an issue with a coax relay prevented this. Bill did have the good news that his station would be fully operational on 2 m, 70 cm and 23 cm within a few weeks. So, while the beacon was heard for a period of nearly four hours, unfortunately no contacts were made.

## 47 GHz contact

Doug VK4OE reports on some exciting happenings at the upper extremes of our frequency bands.

On the morning of Sunday 2nd November, Rob VK4ZDX and I had what is probably the first QSO in VK4 on 47.0881 GHz USB. The distance was only a couple of hundred metres but, considering that it was a first out-of-the-shack test and that no antennas were used other than open WR22 waveguide, I am happy with the result. The only previous

experiments on 47 GHz that I know of in VK were by VK6ZAY some years ago in the Perth area. He still holds the VK distance record for this band (45.7 km), at least for the time being...

We used two transverters of different design that I have been working on for several years (off and on). The transverters use different LO and IF frequencies with the side benefit that there can never be confusion between receiving IF leak-through and true 47 GHz RF. Although the output stages use similar circuits, one transverter produces nearly 1 mW while the other can only currently manage 70 uW.

This result should be regarded as an initial successful test. Further optimisation will now take place, plus the construction of 'real' antennas, both of which will make the system work a whole lot better. Greater and greater distances will become possible! Apart from five years acquiring on the 'surplus' market many of the various key components, it is all my own construction - quite satisfying.

I intend to be operational on 47 GHz for the Spring VHF/UHF Field Day. Now I am looking for other stations on the band...

## Analogue TV shutdown

The government powers-that-be have announced that all analogue TV services will be definitely shut down between 2010 and 2013 (perhaps). While some of the TV frequency channels will probably be re-allocated to Digital TV services, the Low Band services will be put to other uses. Of interest to weak-signal enthusiasts, Channel 5A, which is a non-standard allocation just below our 2 m band, will probably also be reused for other services. The Mt Dundas Channel 5A transmitter in western Victoria is due to cease operations on June 30th 2010. For those living in the region of Channel 5A transmitters, the shutdown

will be a welcome relief, allowing weak signal operation on 2 m. However, those who are more distant will lose the ability to use these powerful transmitters as both beacons and frequency references. One thing we hope is that, if Channel 5A is allocated to other services, they are not going to produce substantial interference on the low end of the band as, for example, Pager services do at the high end.

## 2 metre scramble

Mike VK3KH reports that the revival of the 2 metre Scramble was a great success. The first event was held on the evening of Sunday 26th October. Action was fast and furious for the 15 minutes duration and 21 stations called in at the end to report a score.

Congratulations go to the inaugural winner, Jim VK3II, who scored 61 points.

The Scramble is held on the last Sunday of the month at 0930 UTC, with the next events on 28th December 2008 and 25th January 2009. The event lasts for 15 minutes with a call back for scoring on 144.150 immediately after.

All stations with 2 metre SSB capabilities are invited to take part, and stations are invited to post their intention to participate on the VK Logger in the 30 minutes prior to the Scramble commencing. This alerts stations to look out for others from distant grid squares, as the grid square count is used as a score multiplier.

Operating guidelines and updates are posted on the VK Logger Forum in the 144 MHz Band section. If anyone needs more information they can email Mike on [mdc@cranbournemusic.com.au](mailto:mdc@cranbournemusic.com.au)

Please send any Weak Signal reports to David VK3HZ at [vk3hz@wia.org.au](mailto:vk3hz@wia.org.au).

*continued next page*

# Digital DX Modes

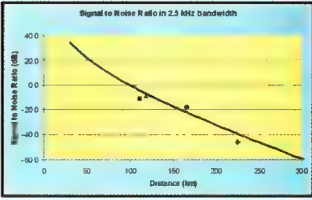
Rex Moncur - VK7MO

Recently, significant advances have been made with non-line-of-sight optical cloudbounce using WSJT, with the distance being increased to 165 km at signal levels of -18 dB on the WSJT scale. A tone has been measured at 18 dB signal to noise ratio in a 1 milliHertz bandwidth at a distance of 224 km. These advances are primarily the result of using a large area Avalanche Photo Diode (10 mm square). These diodes have gains of around 50 to overcome pre-amp noise and also pick up more light with their large areas.

Optical signal levels reduce in accordance with the inverse square law for a cloud larger than the beamwidth, and also due to what is called extinction loss due to scattering of light along the path. Extinction loss is estimated at 0.1 dB per km for red light in very clear air. As optical signals produce a current in the detector proportional to the number of photons, the received power increases as the square of the current and thus the amount of light. Thus the propagation losses increase as the 4th power of distance due to inverse square law and by a factor of about 0.2 dB per km due to extinction in very clear air. The following graph applies this relationship to some of the results to date with the 10 mm square APD receiver with a 375 x 375 mm Fresnel Lens and a 60 Luxeon Red LED transmitter using small torch type 20 mm plastic lenses.

- 111 km path from Kyneton Victoria, VK3HZ & VK3BJM, to Wedderburn Victoria, VK7MO and VK3CY.
  - 118 km path from Tolmans Hill Tasmania, VK7TW, to VK7MO Coles Bay Tasmania.
  - 165 km path from Kyneton Victoria, VK3HZ and VK3BJM, to Wycheproof Victoria VK7MO.
  - 224 km path from Cape Portland North East Tasmania, VK7JG, to Stanley, North West Tasmania, VK7MO.
- In this case signal levels were too low for WSJT but a tone could be detected at 18 dB signal to noise ratio in 1 mHz bandwidth. The received signal to noise ratio has been adjusted to the equivalent level in a 2.5 kHz bandwidth.

It is seen that WSJT, which works to around -28 dB, should be useful to around 180 km with the present equipment, but this is not quite enough to span the 212 km across Bass Strait. However the program JASON is reputed to work down to -45 dB and should meet this requirement even though in its most sensitive mode it takes around 40 minutes to transmit two call signs. On 29 October 2008, Joe VK7JG ventured up Mt Horror in north eastern Tasmania to attempt a JASON contact with Rex VK7MO at Stanley over a 209 km path. Almost as soon as Joe arrived at the top of Mt Horror, low clouds or fog rolled in and most of the transmitted light was scattered in the immediate area. No signals were detected at Stanley over a period of two hours using a 1 mHz bandwidth. While this attempt failed, more attempts will be made with JASON. Alvin VK7NDQ did take some great photos of the light being scattered by the fog, as shown in the photo of Joe VK7JG operating, which is included in this report.



(Graph details in text)

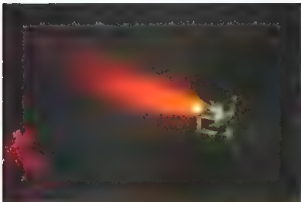


Optical Transmission from Kyneton Victoria with Barry VK3BJM and son Cameron.  
Photo by David VK3HZ.



Optical Transmission into fog at Mt Horror Tasmania - operator Joe VK7JG  
Photo by Alvin de Quincey VK7NDQ.

Please send any Digital DX Modes reports to Rex VK7MO at [rmoncur@bigpond.net.au](mailto:rmoncur@bigpond.net.au)



The transmitter on the tower.



The transmitter on the clouds.

## The Magic Band – 6 m DX

Brian Cleland – VK5BC

October realised several good 'E' openings occurring in all states. The other interest during the month was the Willis Island DXpedition, which was operational on 6 m. Unfortunately they only completed one contact on 6 m with Gary VK4ABW on 17th October - well done Gary.

On 12th October Mark VK8MS in Darwin worked Kevin VK4BKP in Mackay and on 13th October the band was open for several hours from northern VK4 to VK5. Jeff VK5GF at Victor Harbour and Brian VK5BC worked several VK4s including BEG, ACB, BKP, ABW and FNQ whilst the VK4s also enjoyed good conditions to VK2 and 3. Kevin VK4BKP reports working VK2s ZQ & DJ, VK3s DUT, VG, & WN.

The morning of 18th October was interesting with long meteor burns being experienced. Several stations including Scott VK4CZ, David VK3AUU, Joe VK7JG, Gerry VK2APG, Steve VK3OT and Brian VK5BC were heard and completed some contacts via these long meteor burns. On the same morning, John VK3TCT at Mildura who had just erected a 5-element Yagi completed a tropo contact with Brian VK5BC over a distance of 300 km.

On 20th October, the band again opened from VK5 to northern VK4 raising hopes of a contact with VK9DWX but unfortunately only short bursts of

their CW beacon were heard. Again VK5BC worked VK4s BKP, SIX, MS and QB. The Alice Springs VK8RAS beacon was also up to S9 in VK5 and was also heard in VK4.

Dale VK4SIX reported working Mark VK8MS in Darwin on 26th October.

Twenty seventh October saw the band open from VK5 to VK6 as well as northern VK4. Peter VK6KXW worked David VK5AYD at Coober Pedy and VK5BC as well as hearing the Alice Springs beacon and Toowoomba TV. Alex VK5ALX at Whyalla worked Noel VK6BJ in Kalgoorlie and reported both the Perth and Bunbury beacons while Brian VK5BC worked John VK4FNQ Charters Towers and Russell VK4BEG in Malanda.

Another good day on the 28th, with the band opening throughout the day in VK1, 2, 3, 4 and 5. Rob VK1ZQR reported working Russell VK4BEG, John VK4FNQ & Kevin VK4BKP. Garry VK5ZK and VK5BC worked several VK4s and Bill VK5ACY reported working VK4BKP on a Moxon rectangle at 5 feet on a broom handle. Paul VK4MA near Hervey Bay was a big signal working into VK2, 3 and 5 and Richard VK5UK/4 on Fraser Island



The receiver on top of the car

managed to work Brian VK5BC. Several VK3s and 2s also worked into VK4 and Joe VK8VTX in Darwin completed contacts with several northern VK4s.

The good conditions continued on Wednesday 29th October with conditions extending further south to include VK2 to VK5 and VK7 to VK4. Dave VK1DJ worked several VK5s and Norm VK7AC had good conditions into VK4. The Riverland stations Andy VK5LA, Larry VK5LY and Ivan VK5HS worked many VK2 and 4 stations. Alan VK4WR could be heard in VK5 working many VK2, 3 and 7 stations well into the evening.

It has been very pleasing to find so many stations active in all states early in the season. There were certainly many good days in October and let us hope it is the start of a bumper summer 'E' season.

Please send any 6 m information to Brian VK5BC at [bcleland@picknowl.com.au](mailto:bcleland@picknowl.com.au)

# Ross Hull Memorial VHF-UHF Contest 2009

John Martin VK3KM, contest manager

The next Ross Hull Contest will run through the month of January 2009. Logs will be due by February 15.

Since its heyday in the 1980s and 1990s, there has been a decline in contest activity. This year there have been major changes to the rules, which will simplify the log-keeping requirements and will hopefully generate renewed interest in the contest.

The first change is to replace the distance based scoring system with scoring based on grid squares. Rather than having to estimate the distance worked for each contact, entrants merely need to keep a tally of the contacts made and the grid squares worked on each band. This brings the Ross Hull scoring into line with the system that has been used for some years for the VHF-UHF Field Days.

The VHF-UHF and microwave sections have been merged into a single "All Band" section. The separate Digital Modes section has been retained.

The band multipliers remain the same as those used for the VHF-UHF Field Days. Analysis of logs from past years shows that these multipliers provide a good balance between the lower and higher bands – microwave contacts score higher points, but this is balanced by the fact that there are more stations to work on the lower bands.

The Ross Hull Contest is a DX contest, so it is held at the time of year when there are most likely to be band openings. But midsummer is also a time when amateurs have to find a balance between work, family commitments and holidays. The length of the contest period should allow everyone to find enough free time to spend in the shack. But the largest part of the score for each band will come from working new locator squares, so it is not necessary to work the maximum number of stations every day.

## The Contest

The WIA maintains a perpetual trophy in honour of the late Ross A. Hull and his pioneering achievements in VHF and UHF operation. The name of each year's contest winner is engraved on the trophy, and other awards may be made in the various divisions of the contest. The contest is open to all amateurs.

## Duration

0000 UTC January 1, 2009 to 2400 UTC January 31, 2009.

In Eastern Summer Time, that is 11 a.m. on January 1 to 11 a.m. on February 1.

## Sections

A: All bands, non-digital modes.

B: All bands, digital modes.

Digital modes are defined as those in which the decoding of the received signal is done by a computer.

Entrants may submit logs for one or both sections.

## General Rules

One call sign and one operator per station. Stations may operate from any location. You may work stations within your locator square. You may claim one contact per station per band per UTC day, although a station may be worked more than once

per UTC day if the station location has changed to a different locator square.

Repeater, satellite and crossband contacts are not permitted. No contest activity is permitted below 50.150 MHz. Recognised DX calling frequencies should be avoided where possible for contest activity. Suggested procedure is to call on .150 on each band, and QSY up to make the contest exchange. All rulings of the contest manager will be accepted as final.

## Contest Exchange

For Section A, Entrants must exchange RS (or RST) reports, a serial number, and the 4-digit Maidenhead locator they are operating from. Serial numbers need not be consecutive. The Maidenhead locator is optional if it has already been exchanged in a previous contact, for example a contact made on a different band on the same day. For propagation modes such as meteor scatter or short-lived sporadic E openings, it is sufficient to exchange call signs plus two further digits that cannot be predicted by the other station.

For Section B, exchange call signs plus two further digits that cannot be predicted by the other station.

## Logs

Logs must contain the following for each contact:

- Date and UTC time.
- Frequency and call sign of station worked.
- Reports and serial numbers sent and received.
- Grid locator of your station and of the station worked.

Separate scoring columns for each band would be helpful.

## Scoring

For each band, score 1 point per contact, plus 10 points for each four-digit locator square worked.

Multiply the total by the band multiplier as follows:

6 m	2 m	70 cm	23 cm	Higher bands
x 1	x 3	x 5	x 8	x 10

Then total the scores for all bands.

## Cover Sheet

Logs must be supplied with a cover sheet containing:

- Operator's call sign, name and address.
- Station location (if different from the postal address).
- Section(s) entered.
- A scoring table set out as the example below.
- A signed declaration that the station has been operated in accordance with the rules and spirit of the contest, and that the contest manager's ruling will be accepted as final.

Please use the following format for your scoring table. In this example, the entrant has worked four grid squares and made 20 contacts on each band.

Band	Locators Worked (10 points each)	+ QSOs (1 point each)	x	Multiplier	=	Band Total
6 m	40	+ 20	x 1		=	60
2 m	40	+ 20	x 3		=	180
70 cm etc.	40	+ 20	x 5		=	300
Overall Total					=	540

*A cover sheet and scoring table has been included in the postings on the WIA web site. Copies can also be obtained from the e-mail address given below.*

## Penalties

Minor errors may be corrected and the score adjusted. Repeated use of recognised DX calling frequencies (especially when the reports indicate strong signals) may lead to disqualification. Inclusion of any false log entries will lead to disqualification.

## Entries

Paper logs may be posted to the Manager, Ross Hull Contest, 3 Vernal Avenue, Mitcham, Vic 3132. Electronic logs can

be e-mailed to [vhf-contests@wia.org.au](mailto:vhf-contests@wia.org.au). The following log formats are acceptable: ASCII text, Office 97 or later RTF, DOC, XLS or MDB.

Logs must be received by **February 14, 2009**. Early logs would be appreciated.

## Further Information on Maidenhead Locators

Each four-digit Maidenhead locator identifies an area which covers 1 degree of latitude and two degrees of longitude. Detailed explanation of the Maidenhead locator system can be found on the Ross Hull Contest page on the WIA web site. If you have your latitude and longitude but do not know which locator square you are in, a computer program is available for download on the same web page, or directly from the contest manager. This program will also calculate distance and bearings between two locations.

### NAME OF CONTEST

Contest date:

Call sign:

Section entered:

Operator's name:

A All bands

B All bands, digital modes

Station location:

*If entering more than one section, please make out a separate cover sheet for each section.*

Postal address:

### Declaration

*The station was operated in accordance within the rules and spirit of the contest. I agree to accept the Contest Manager's decision as final.*

Signature:

### SCORING TABLE

Band	Locators Worked 10 points each	+	QSOs made 1 point each	=	Total	x	Band Multiplier	=	Band Total
50 MHz		+		=		x	1	=	
144 MHz		+		=		x	3	=	
432 MHz		+		=		x	5	=	
1296 MHz		+		=		x	8	=	
2.4 GHz		+		=		x	10	=	
3.4 GHz		+		=		x	10	=	
5.7 GHz		+		=		x	10	=	
10 GHz		+		=		x	10	=	
Higher Bands		+		=		x	10	=	

### FINAL TOTAL =

Any comments or suggestions:

Examples of cover sheet and scoring table Ross Hull Memorial VHF-UHF Contest

## Over to you

### Wideband Yagis

Since my article on Simple Wideband Yagis appeared in September AR, I have had a number of people contact me advising that it would be better to use the grey electrical conduit rather than the orange version I did. This is based on the fact that the orange version is intended for inside or underground use where there is little exposure to sunlight and as such it does not need to be very UV stable, and it will in fact become discoloured and brittle with continuous exposure to the sun. The grey version being intended for external use is supposedly much better in this regard. While I can not find any definitive

statement to this effect in the various manufacturers' literature/web sites, and certainly no hard data on exposure times etc. there are hints that this may be the case. In the case of the original prototypes which have now been up in the air for just over 12 months I can report that they are still performing very well though the orange colour has faded slightly. I have not had any reason to try to subject them to the sorts of stresses where brittleness would be evident, so fingers crossed this will not be an issue for some time.

The only problem I am aware of with using the grey conduit would be that it is slightly thinner walled making it a bit

harder to find a good size match for the inner dowel or broomstick.

It has also been pointed out that I did not mention how I attached the Yagi boom to the mast. While many variations are possible and mounting of the mast to the boom behind the reflector is the purist's way, I actually simply used a standard TV antenna U bolt with a couple of holes drilled through the boom at a convenient spot. In particular I found which two elements the balance point was between and then put the clamp in the middle between those two elements.

Paul VK3DIF

# Summer VHF-UHF Field Day 2009

Contest manager: John Martin VK3KM

## Dates

Saturday and Sunday 17 and 18 January 2009.

Duration in all call areas other than VK6: 0100 UTC Saturday to 0100 UTC Sunday.

Duration in VK6 only: 0300 UTC Saturday to 0300 UTC Sunday.

(Contest name) WIA VHF-UHF FIELD DAY

Date:

Section entered: Station callsign:

- A Single operator 24 hours  
 Callsigns and names of all operators:  
 B Single operator 8 hours  
 C Multi operator 24 hours  
 D Multi operator 8 hours  
 E Home station 24 hours

If entering more than one section, please use a separate copy of this sheet for each section.

For Section B or D, time period to be scored:

Postal address for notification of results:

The station operated from the following grid locators:

Declaration:

The station was operated in accordance with the rules with the rules and spirit of the contest.  
 I/We agree to accept the Contest Manager's decision as final.

Signed:

Example of cover sheet Summer VHF-UHF Field Day

Please note that the UTC times differ from those of the Winter Field Day because daylight saving time will apply in most states.

## Sections

- A: Portable station, single operator, 24 hours.  
 B: Portable station, single operator, 8 hours.  
 C: Portable station, multiple operator, 24 hours.  
 D: Portable station, multiple operator, 8 hours.  
 E: Home station, 24 hours.

Entrants may enter more than one section.

**Single operator stations:** If a single operator station operates for more than 8 hours, the station may enter both Section A and Section B. If the winner of Section A has also entered Section B, his log will be excluded from Section B.

**Two operators:** If two operators set up a joint station with shared equipment, they may choose to enter Section A or B as separate stations under their own callsigns, or Section C or D under a single callsign. If they enter Section A or B, they may not claim contacts with each other.

**Multi-operator stations:** Stations with more than two operators must enter Section C or D. If the winners of Section C have also entered Section D, their log will be excluded from Section D. Operators of stations in Section C or D may not make contest exchanges using callsigns other than the club or group callsign.

**Operating periods:** Stations entering the 8 hour sections may operate for more than 8 hours – please include details in your cover sheet of which 8 hour period should be used for scoring purposes.

## General Rules

One callsign per station. Operation may be from any location. A station is portable only if all of its equipment is transported to a place which is not the normal location of any amateur station. Stations may change location during the Field Day provided the station is dismantled and reassembled each time it moves. You may work stations within your own locator square. Repeater, satellite and crossband contacts are not permitted.

No contest operation is allowed below 50.150 MHz. Recognised DX calling frequencies must not be used for contest activity. Suggested procedure is to call on .150 on each band, and QSY up to make the contest exchange.

## Contest Exchange

RS (or RST) reports, a serial number, and your four digit Maidenhead locator. The Maidenhead locator is optional if it has already been exchanged in a previous contact during the Field Day and neither station has moved since then.

## Repeat Contacts

Stations may be worked again on each band after three hours. If the station is moved to a new location in a different locator square, repeat contacts may be made immediately.

SCORING TABLE						
Band	Locators Activated 10 points each	Locators Worked 10 points each	QSOs made 1 point each	Total	Band Multiplier	Band Total
50 MHz	+	+	=		x 1	=
144 MHz	+	+	=		x 3	=
432 MHz	+	+	=		x 5	=
1296 MHz	+	+	=		x 8	=
2.4 GHz	+	+	=		x 10	=
3.4 GHz	+	+	=		x 10	=
5.7 GHz	+	+	=		x 10	=
10 GHz	+	+	=		x 10	=
Higher	+	+	=		x 10	=
FINAL TOTAL =						

Example of Scoring table Summer VHF-UHF Field Day

If the station moves back into the previous locator square, the three hour limit still applies to stations worked from that square.

## Logs

Logs should cover the entire operating period and include the following for each contact: UTC time; frequency; station worked; serial numbers and locator numbers exchanged.

## Scoring

For each band, score 10 points for each locator square in which your station operates, plus 10 points for each locator square worked, plus 1 point per contact. Multiply the total by the band multiplier as follows:

6 m	2 m	70 cm	23 cm	Higher
x 1	x 3	x 5	x 8	x 10

Then total the scores for all bands.

## Cover Sheet

The cover sheet should contain the names and call signs of all operators; postal address; station location and Maidenhead locator; the section(s) entered; the scoring table; and a signed declaration that the contest manager's decision will be accepted as final (see examples on previous page).

Please use the following format for your scoring table. In this example the operator has operated from one locator and worked four locators on each band:

Band	Locators Activated (10 points each)	+	Locators Worked (10 points each)	+	QSOs (1 point each)	x	Multiplier	=	Band Total
6 m	10	+	40	+	40	x	1	=	90
2 m	10	+	40	+	30	x	3	=	240
70 cm	10	+	40	+	20	x	5	=	350
etc.									
Overall Total									= 680

A blank cover sheet, with scoring table, is available on the Field Day page of the WIA web site.

## Entries

Paper logs may be posted to the Manager, VHF-UHF Field Day, 3 Vernal Avenue, Mitcham, Vic 3132. Electronic logs can be e-mailed to [vhf-contests@wia.org.au](mailto:vhf-contests@wia.org.au). The following log formats are acceptable: ASCII text, MS Office 2000 (or earlier) RTF, DOC, XLS or MDB. Logs must be received by **Monday, 2 February 2009**. Early logs would be appreciated.

ar

## Silent key

### Tribute to

## Ehrgott Von Stanke VK5KU

Born in 1920, Ehrgott, or Erg as he was appropriately known, was a man of energy. As a young boy he was interested in radios and built his first crystal set during his school years. A large Cypress tree supported the antenna on which he keenly listened to radio stations both local and interstate.

Erg became interested in Morse code when he took his first job as a Telegraph boy. He found the required books and started to learn Morse code. He was called into the Army for military service and it was here that he further developed his code skills as a radio operator in a tank.

Erg received his Amateur Operators

Certificate of Proficiency on the 30 Nov 1948 and was issued with the call sign of VK5KU. He built his first radio, which was lost in a house fire, but his friends gathered new equipment for him to use. Erg was very active on the bands and contacted thousands of amateurs all over the world. He received a number of awards in VK/ZL VK5 CW category during the fifties. He also pursued and obtained IARU WAC and RSGB WBE awards.

Erg was a long-time WIA member having joined the VK5 Division in 1951.

Even on holidays, Erg would take his radio so that he could continue participating with his many amateur friends. If Erg was not anywhere to be seen, there was only one place he would be and that was upstairs in his shack operating his radio.

Upon his passing in June 2008, the WIA received a request from his family for permission to add the WIA logo to Erg's gravestone; such was his commitment



Erg at the operating desk.

to amateur radio and the WIA.

Erg is sadly missed by his extended family and his many amateur radio friends.

From information provided by Summa Tully (Erg's granddaughter)

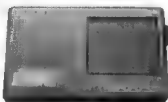
**Geoff Atkinson VK3AFA**



Erg's gravestone.

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Tim Roberts VK4YEH QTHR.

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•KENWOOD TS-140 HF transceiver. Goes well. In good condition. S/N 30700507 with CW 270 Hz filter fitted Cost \$1495, price \$600 o.n.o. Arthur VK2ZSB QTHR. Email [arthurbowman@bigpond.com](mailto:arthurbowman@bigpond.com). Phone day or evening 02 4757 3823 Mobile 0418 223 132.

•Want to try PSK31, SSTV, Olivia, Domino? Join the digital modes revolution with the Ozi-Data Interface Kit. Easy and fun to build. We supply the interface kit, PCB, components & case, and you supply the leads. Detailed construction manual with connection lead data for most transceivers. OZI-DATA Kit \$50.00 + \$5.50 postage VK. The Mid North Coast Amateur Radio Group Inc. P.O. Box 505 Bellingen NSW 2454 <http://www.mncarg.org/> or [mncarg@yahoo.com.au](mailto:mncarg@yahoo.com.au)

•HILLS two section winch up, heavy duty fold over galvanised tower, extends to 12 metres HILLS base plate, top stay bearing, guy wires, turn buckles, durium pipe 50 mm OD x 3 m complete with stainless steel hardware. Excellent condition. Price \$850.00. Tower currently stored in the Hunter Valley. Manfred Meyer VK2RV QTHR Phone 02 4938 1560 or mobile 0418 210 457. Email [mymeyer@ozemail.com.au](mailto:mymeyer@ozemail.com.au)

•CREATE rotator model RC5-A3 complete with indicator controller unit and mast clamp, instruction manual and schematic diagram. Rotation torque 16 kgm. Has had very little use, excellent condition. Price \$850. Manfred Meyer VK2RV QTHR Phone 02 4938 1560, mobile 0418 210 457. Email [mymeyer@ozemail.com.au](mailto:mymeyer@ozemail.com.au)

•I have some ICOM IC-F3S for sale. VHF Handhelds. Top quality Made in Japan. They cover 138 to 174 MHz. Alphanumeric display shows frequency in use. They are used but in good condition, and programmed with 32, 2 metre frequencies. I can get the programming changed for your favourite frequencies if they are not already in it. 30 repeater channels should cover every repeater in Australia. 5 watts. Radio to radio clone programming with a simple cable into the speaker socket. Computer programmable as commercial band radios are these days. They look like the CB IC-40s or the Amateur IC-T2 but the key pad is a little different to T2. They use the same batteries. These radios are ready to go and you do not have to risk eBay business. Serial numbers will be given later. \$25 a radio. If you would like them programmed for use on the commercial band, it will be \$30.00 a radio. Another \$15 with antenna. You can buy a battery pack to put in your own cells for about \$22 at most 2 way radio shops, or I will sell you a good second hand rechargeable pack at half price. I have disks for sale with free information on them. I am only charging for my time and work in making the disk \$10.00. I also have UHF handhelds that can be used on commercial frequencies and for UHF CB. These prices are negotiable. Victor VK2XVS Ph.0435 996 995, email [victorstafford@hotmail.com](mailto:victorstafford@hotmail.com) QTHR

•Modulation meter: RACAL type 409, 3 MHz to 500 MHz, AM/FM \$60. Wave analyzer AJRMEC 248A, 5 MHz - 300 MHz, offers. NEC TR-25060 FM microwave 1.7 GHz FM tx/rx link rack complete with Operators and Workshop manuals.

Suitable for conversion or parts. Any reasonable offer accepted. Buyer to collect. Arthur VK2ZSB QTHR 02 4739 8695, email [arthurforster@bigpond.com](mailto:arthurforster@bigpond.com)

### WANTED NSW

•Instruction manual for EDOYSTONE 840C receiver. Will pay all cost for photocopying, postage etc. QTHR. Dennis 02 8628 0087 VK2RM

•Needed, one BANDO RADIO TECHNIC-5 Owners Manual in English. Will pay for costs. Richard VK2UAL PO Box 645 Willoughby NSW 2068 [vk2ual@yahoo.com](mailto:vk2ual@yahoo.com)

•Information needed. SUNAIRASB-100 Aviation Radio, I have 2 of these beautiful old sets and I am very keen to use them on ham bands. I don't know much about these i.e. setting them up and making the harness to get it all working as one. I would be very grateful for any help from anyone who has worked with these great old units. Please contact me via email [vk2ual@yahoo.com](mailto:vk2ual@yahoo.com) or postal Richard VK2UAL PO Box 645 Willoughby NSW 2068

•EMTRON AT300 antenna tuner. Must be 100% OK. No "cooked" balun. John Bennett VK28IG QTHR, email: [macben2@bigpond.com](mailto:macben2@bigpond.com). Price and location please.

### FOR SALE VIC

•YAESU FT-1807M mobile transceiver tx adjustable power to 50 watt. Used as base station only. Mint condition. Tx 400 - 470 MHz Rx 400 - 470 MHz. Still under warranty, approx 2 years left. Serial No 7F090015. \$200 only, buyer to pay freight from Melton Vic. Stan Kovczynski VK3BNJ 03 9743 6708

•ICOM IC-260A 2 m all mode transceiver digital readout VFO & RIT memories, meter, mic, book \$400. NALLY tower TH6 beam \$500. EMOTATOR model 1102MXX and control unit \$300. Siemens twin cavity tuns. 400 m/c to m/c. Beauty. \$100. VK3DS Ballarat QTHR 03 5332 3228

•Contents from the shack of the late Richard "Dick" Hamman VK3NDC : HF: YAESU: FT-1012 + matching speaker s/n 9D-030045 \$450.00 very good condition YAESU: FT-101B (B146 conversion done by qualified tech.) \$400.00. YAESU: FT-707 s/n 7 includes MD-1 desk mike \$400.00. 2 mtrs FM YAESU FT-212RH s/n 1N828108 \$150.00 Receivers: YAESU FRG-7 s/n 138K231260 \$125.00 YAESU FRG-7000 s/n 100C-100096 \$250.00 REALISTIC scanner Pro2020 \$50.00. Power supplies: DICK SMITH D-3800 3-15V, 25 amp heavy duty \$200.00. TRANSWEST 13.8V 4 amp \$50.00 Antenna tuners: YAESU F-700 \$175.00 SWR meters: Power/awrfield strength meter Model 1711

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brand? \$125.00. **Artificial ground:** MJF-931 \$175.00. **Dip meter:** DICK SMITH TR Dip meter Q-1300 with case as LEADER brand.) \$40.00. **Tower:** Wind-up 2 piece 50 ft tilt steel tower. Plus assorted aerials \$700.00. Tower is down and on the ground. **Antique:** HALLCRAFTERS Receiver Model 572D S/N687965 550 kc - 30 MHz, has (8) new valves fitted. \$150 or best offer. All gear was working at time of Dick's passing. Contact Max VK3JIN 9762-7472, 0412-355-306. Email: maxh10@oplusnet.com.au

•VK5JST antenna analyser, built and working (see AR article May 2006). Price \$150.00. (Kit price \$135.00 + \$15.00 assembly). I can email a photo if required. Roderick Wall Email: vk3yc@wia.org.au or 0413 074 386.

### WANTED VIC

•Kenwood or Yaesu linear power supply. in good working order. Mark VK3MJ, vk3mj@hotmail.com Ph 0438 241 513

### FOR SALE QLD

•Vintage YAESU MUSEN HF Amateur Radio Twins. One of the earlier HF transmitter/receiver combinations manufactured. Originally belonged to my father Joseph. Transmitter: FL-50 Receiver FR-50 a matching pair. Designed & built in the mid 1960s in the Tokyo suburb of YAESU by Sako Hasegawa JA1MP founder of YAESU MUSEN Radio Company. A very rare offering! Both Japanese & English owners manuals (originals) and interconnecting cable supplied. Among the very first radios built for & imported into Australia by Bail Electronics Victoria for 240 VAC 50 Hz operation. Radios are in storage in Western Sydney. Internet photos supplied to genuine buyers. \$375 plus postage/freight for the pair. Andy VK4FBI vk4fbi@yahoo.com.au 0405 089 161

### WANTED QLD

•ICOM desk top battery charger BC-119N. Damaged case OK, as really looking for the main PC board B5712C. Bob VK4BYX. Email vk4byx@inet.net.au

### FOR SALE SA

•HILLS tower 8 m section 250 mm triangular lattice construction, well galvanised with swivel base and winch, ideal for tiltover mast. \$145. John VK5ARL QTHR

•YAESU FT-DX400. ICOM IC-215 2M FM Trx. ICOM IC-202 SSB Trx. ICOM IC-501. ICOM IC-502 50 MHz SSB Trx. YAESU FT-221. ICOM IC-211. ICOM IC-21A with DV-21 PLL Digital VFO. YAESU FR-101. ASTOR PB1, Pulse and Bar Generator. HEATHKIT, TV Alignment Gen. MARCONI VHF FT1064B/7 Signal Generator. MARCONI. TF995B/5 AM/FM Signal Gen. RAPAR. Audio Gen. HITACHI V-222 20 MHz CRO. BWD540 CRO. TEKTRONIX 515A CRO.

TEKTRONIX 525, Model III, Waveform Gen. 2 x Military ICA Reception Sets, Model 5223 (circa 1965). ASTOR TSG-7 Sig Gen. KURAMSHI KEISOKUKI KENKYUSHO RF Dummy Load watt meter, Model RW-120D. KW Electronics KW-20. VISCONAT Mixing Desk 1150B Programmer. GRUNDIG Senderwahl Receiver. Dino Beverakis 0413 307 869

### WANTED SA

•A deceased YAESU FT-200 transceiver and power supply or similar aged radio for spare parts, including 9 MHz crystal SSB filter and carrier crystals. Contact Darryl VK5JDS 08 8445 1607 QTHR.

•MIDLAND 2 metre 1/2 mic, to have 6 pin mic. outlet. I am told that this radio has about 50 watt output. This unit to be in good working condition. Email: whyhbg@sa86net.com, or call telephone 08 8644 3016. Thanks VK5HBG

### FOR SALE WA

•KENWOOD TS-120V HF transceiver s/n 912297 with matching PS-20 240v/13.8 V 4 amp power supply. 1980s vintage transceiver covering 80 m thru 10 m. WWW on 15 MHz. No WARC bands. 10 watts on CW, 30 watts PEP on SSB. In very good condition with manuals, circuit diagrams, cables and microphone in original packing cartons. \$250 ono. John VK6JAH. 08 9384 6325 jahl21@bigpond.com

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National VK1WIA news is distributed to all states.

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*Chairman of the regional committee is in bold*

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Alan Baker VK8ZAB  
Trevor Wardrope VK8TJW  
Wayne Cockburn VK8ZAA

## Broadcast details

**VK1** VK1WIA: Sunday 0900 local on the Mt Ginini repeaters 146.950 and 438.050 MHz. The UHF repeater requires 123 Hz access tone and is linked to the Goulburn repeater.

**VK2** VK2WI: Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.6000, 147.000, 438.525 and 1273.500 MHz. Also 5.425 MHz USB in the morning..

Plus provincial relays both sessions and country relays in the morning via local repeaters. VK1WIA news is included in the morning.

**VK3** VK1WIA: Sunday 10:30 am and 8 pm Local Time. Amateur Radio Victoria VK3BWI B/cast Network: 3.615, 7.158, 10.130, 147.250 VK3RMM Mt Macedon, 146.700 VK3RML Mt Dandenong, 147.225 VK3RWG Mt Baw Baw, 438.075 VK3RML Mt St Leonard.

**VK4** VK1WIA: Sunday 0900 local via HF and major VHF/UHF repeaters.

**VK5** VK5WI: Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975

**VK6** VK6WIA: Sunday 0900 local, on 1.865, 3.582, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz. Country relays on 3.582 MHz and major repeaters. Repeated Sunday, 1900 local, on 1.865, 3.565, 146.700 and 438.525 MHz. Country relays on major repeaters. Also in 'Realaudio' format from the VK6WIA website.

**VK7** VK7WI: Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters. VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHz, and on major repeaters.

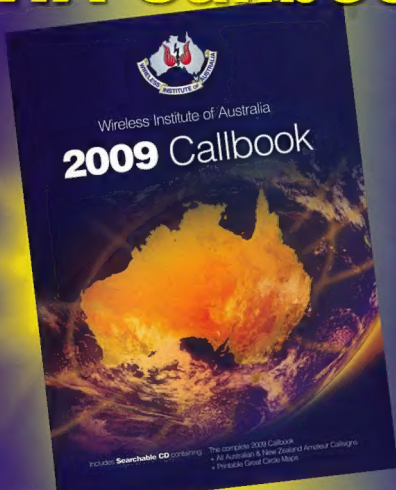
**VK8** Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

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